US009306998B2

(12) **United States Patent**
Nguyen et al.

(10) **Patent No.: US 9,306,998 B2**
(45) **Date of Patent: Apr. 5, 2016**

(54) **USER INTERFACE FOR SIMULTANEOUS DISPLAY OF VIDEO STREAM OF DIFFERENT ANGLES OF SAME EVENT FROM DIFFERENT USERS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 279 days.

(21) Appl. No.: **13/851,606**

(22) Filed: **Mar. 27, 2013**

(65) **Prior Publication Data**

US 2013/0212232 A1 Aug. 15, 2013

Related U.S. Application Data

(63) Continuation of application No. 13/398,227, filed on Feb. 16, 2012, now Pat. No. 8,412,772.

(60) Provisional application No. 61/537,526, filed on Sep. 21, 2011.

(51) **Int. Cl.**
H04L 29/06 (2006.01)
H04L 29/08 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***H04L 65/60*** (2013.01); ***G06Q 50/01*** (2013.01); ***H04L 12/1822*** (2013.01);
(Continued)

(58) **Field of Classification Search**
None
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,393,025 A 7/1983 Leyse
5,991,808 A 11/1999 Broder et al.
(Continued)

FOREIGN PATENT DOCUMENTS

CN 103797508 A 5/2014
CN 104106062 A 10/2014
(Continued)

OTHER PUBLICATIONS

"U.S. Appl. No. 13/887,529, Examiner Interview Summary mailed Sep. 4, 2014", 3 pgs.
(Continued)

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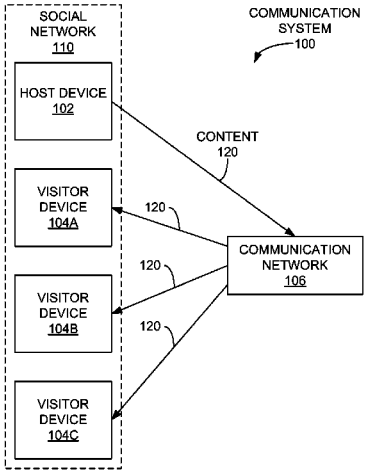
(57) **ABSTRACT**

Example systems and methods of content sharing via social networking are presented. In one example, availability of a first user device to provide media content over a communication network is detected. A second user device is identified via an association of the first user device with the second user device that is specified in a social network. An acceptance by the second user device to receive the media content from the first user device is determined. In response to the acceptance, transmission of the media content provided by the first user device over the communication network to the second user device is initiated.

15 Claims, 33 Drawing Sheets



(51) **Int. Cl.**

H04L 12/58	(2006.01)
H04L 12/26	(2006.01)
H04L 12/18	(2006.01)
G06Q 50/00	(2012.01)
H04N 21/231	(2011.01)
H04N 21/24	(2011.01)
H04N 21/2743	(2011.01)
H04N 21/4788	(2011.01)
H04L 12/801	(2013.01)

(52) **U.S. Cl.**

CPC ***H04L 12/585*** (2013.01); ***H04L 43/0811*** (2013.01); ***H04L 43/0817*** (2013.01); ***H04L 47/19*** (2013.01); ***H04L 65/4069*** (2013.01); ***H04L 65/80*** (2013.01); ***H04L 67/1006*** (2013.01); ***H04L 67/1008*** (2013.01); ***H04L 67/1012*** (2013.01); ***H04L 67/1019*** (2013.01); ***H04N 21/23103*** (2013.01); ***H04N 21/2402*** (2013.01); ***H04N 21/2743*** (2013.01); ***H04N 21/4788*** (2013.01); *H04L 67/101* (2013.01); *H04L 67/26* (2013.01)

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,128,657	A	10/2000	Okanoya et al.	
6,205,477	B1	3/2001	Johnson et al.	
6,240,454	B1	5/2001	Nepustil	
6,993,325	B1	1/2006	Waesterlid	
7,058,958	B1	6/2006	Shutt et al.	
7,177,904	B1	2/2007	Mathur et al.	
7,266,383	B2	9/2007	Anderson	
7,546,369	B2	6/2009	Berg	
7,644,144	B1	1/2010	Horvitz et al.	
7,680,770	B1	3/2010	Buyukkokten et al.	
7,702,728	B2	4/2010	Zaner et al.	
7,730,216	B1	6/2010	Issa et al.	
7,813,277	B2	10/2010	Okholm et al.	
7,886,024	B2	2/2011	Kelly et al.	
7,886,327	B2	2/2011	Stevens	
7,938,727	B1	5/2011	Konkle	
7,954,058	B2	5/2011	Kalaboukis et al.	
7,958,193	B2	6/2011	Augustine et al.	
7,970,111	B2	6/2011	Swanburg	
7,970,350	B2	6/2011	Sheynman et al.	
7,970,418	B2	6/2011	Schmidt et al.	
7,975,062	B2	7/2011	Krikorian et al.	
7,996,566	B1	8/2011	Sylvain et al.	
8,010,602	B2	8/2011	Shen et al.	
8,051,157	B2	11/2011	Park et al.	
8,103,729	B2	1/2012	Tornabene et al.	
8,145,532	B2	3/2012	Jones et al.	
8,181,071	B2	5/2012	Cahill et al.	
8,214,862	B1 *	7/2012	Lee et al.	725/62
8,239,445	B1	8/2012	Gage et al.	
8,311,950	B1	11/2012	Kunal et al.	
8,327,012	B1	12/2012	Nguyen et al.	
8,370,208	B1	2/2013	Gupta et al.	
8,386,619	B2	2/2013	Mallet et al.	
8,392,526	B2	3/2013	Mallet et al.	
8,412,772	B1	4/2013	Nguyen et al.	
8,428,604	B2	4/2013	Davies et al.	
8,438,233	B2	5/2013	Mallet et al.	
8,473,550	B2	6/2013	Nguyen et al.	
8,539,086	B2	9/2013	Mallet et al.	
8,583,690	B2	11/2013	Sittig et al.	
8,621,019	B2	12/2013	Nguyen et al.	
8,868,739	B2	10/2014	Mallet et al.	
8,880,609	B2	11/2014	Mallet et al.	
8,886,807	B2	11/2014	Nguyen et al.	
8,892,653	B2	11/2014	Mallet et al.	
8,930,459	B2	1/2015	Mallet et al.	
8,935,332	B2	1/2015	Mallet et al.	
8,943,137	B2	1/2015	Mallet et al.	
8,943,138	B2	1/2015	Mallet et al.	
8,943,157	B2	1/2015	Mallet et al.	
8,954,506	B2	2/2015	Mallet et al.	
8,959,153	B2	2/2015	Mallet et al.	
8,965,990	B2	2/2015	Mallet et al.	
8,972,501	B2	3/2015	Mallet et al.	
9,071,509	B2	6/2015	Mallet et al.	
9,094,289	B2	7/2015	Mallet et al.	
9,131,028	B2	9/2015	Nguyen et al.	
9,154,536	B2	10/2015	Nguyen et al.	
2002/0052942	A1	5/2002	Swildens et al.	
2003/0004916	A1	1/2003	Lewis	
2003/0069867	A1	4/2003	Coutts et al.	
2003/0093462	A1	5/2003	Koskelainen et al.	
2003/0126197	A1	7/2003	Black et al.	
2004/0205219	A1	10/2004	Li	
2004/0236850	A1	11/2004	Krumm et al.	
2005/0091315	A1	4/2005	Hurtta	
2005/0177614	A1	8/2005	Bourne	
2005/0188098	A1	8/2005	Dunk	
2005/0193099	A1	9/2005	Reus et al.	
2005/0193115	A1	9/2005	Chellis et al.	
2005/0197846	A1	9/2005	Pezaris et al.	
2005/0266835	A1	12/2005	Agrawal et al.	
2006/0004680	A1	1/2006	Robarts et al.	
2006/0047751	A1	3/2006	Chen et al.	
2006/0109083	A1	5/2006	Rathus et al.	
2006/0146765	A1	7/2006	Van De Sluis et al.	
2006/0159109	A1	7/2006	Lamkin et al.	
2006/0168230	A1	7/2006	Caccavale'et al.	
2006/0212529	A1	9/2006	Choi et al.	
2006/0230170	A1	10/2006	Chintala et al.	
2006/0241860	A1	10/2006	Kimchi et al.	
2006/0242234	A1	10/2006	Counts et al.	
2007/0011498	A1	1/2007	Shaffer et al.	
2007/0027972	A1	2/2007	Agrawal et al.	
2007/0032244	A1	2/2007	Counts et al.	
2007/0180113	A1	8/2007	Van Bemmel	
2007/0226799	A1	9/2007	Gopalan et al.	
2007/0237096	A1	10/2007	Vengroff et al.	
2007/0255579	A1	11/2007	Boland et al.	
2007/0270074	A1	11/2007	Aochi et al.	
2008/0005684	A1	1/2008	Ochs	
2008/0086431	A1	4/2008	Robinson et al.	
2008/0098087	A1	4/2008	Lubeck	
2008/0133658	A1	6/2008	Pennington	
2008/0133767	A1	6/2008	Birrer et al.	
2008/0140650	A1	6/2008	Stackpole	
2008/0177861	A1	7/2008	Basani et al.	
2008/0222295	A1	9/2008	Robinson et al.	
2008/0222308	A1	9/2008	Abhyanker	
2009/0144392	A1	6/2009	Wang et al.	
2009/0148124	A1	6/2009	Athsani et al.	
2009/0158176	A1	6/2009	Kalaboukis et al.	
2009/0164600	A1	6/2009	Issa et al.	
2009/0172152	A1	7/2009	Patiejunas et al.	
2009/0177604	A1	7/2009	Alperin	
2009/0187936	A1	7/2009	Parekh et al.	
2009/0192887	A1	7/2009	Moore et al.	
2009/0215469	A1	8/2009	Fisher et al.	
2009/0228559	A1	9/2009	Campbell et al.	
2009/0231411	A1	9/2009	Yan	
2009/0232408	A1	9/2009	Meany	
2009/0265257	A1	10/2009	Klinger et al.	
2009/0265426	A1	10/2009	Svendsen et al.	
2009/0288120	A1	11/2009	Vasudevan et al.	
2009/0319288	A1	12/2009	Slaney et al.	
2010/0031156	A1	2/2010	Doyle et al.	
2010/0036912	A1	2/2010	Rao	
2010/0037141	A1	2/2010	Carter et al.	
2010/0042660	A1	2/2010	Rinearson et al.	
2010/0048242	A1	2/2010	Rhoads et al.	
2010/0064334	A1	3/2010	Blackburn et al.	
2010/0070542	A1	3/2010	Feinsmith	
2010/0142447	A1	6/2010	Schlicht et al.	
2010/0144426	A1	6/2010	Winner et al.	
2010/0146115	A1	6/2010	Bezos	
2010/0153175	A1	6/2010	Pearson	

(56) **References Cited**

U.S. PATENT DOCUMENTS

2010/0185630 A1 7/2010 Cheng et al.
2010/0191728 A1* 7/2010 Reilly G06F 17/30265 707/736
2010/0191836 A1 7/2010 Knight
2010/0208033 A1 8/2010 Edge et al.
2010/0217866 A1 8/2010 Nandagopal et al.
2010/0250458 A1 9/2010 Ho
2010/0287053 A1 11/2010 Ganong et al.
2010/0293190 A1* 11/2010 Kaiser et al. 707/769
2010/0293198 A1 11/2010 Marinucci et al.
2010/0299391 A1 11/2010 Demarta et al.
2011/0016399 A1 1/2011 Yasrebi et al.
2011/0029608 A1 2/2011 Harple et al.
2011/0034176 A1 2/2011 Lord et al.
2011/0052155 A1 3/2011 Desmarais et al.
2011/0055289 A1 3/2011 Ennis
2011/0061108 A1 3/2011 Arrasvuori et al.
2011/0066743 A1 3/2011 Hurley et al.
2011/0072078 A1 3/2011 Chai et al.
2011/0072114 A1 3/2011 Hoffert et al.
2011/0078129 A1 3/2011 Chunilal
2011/0082915 A1 4/2011 Carr et al.
2011/0083037 A1 4/2011 Bocharov et al.
2011/0083101 A1 4/2011 Sharon et al.
2011/0093784 A1 4/2011 Kiraz et al.
2011/0103356 A1 5/2011 Chandrasekaran
2011/0131100 A1 6/2011 Soza et al.
2011/0137976 A1 6/2011 Poniatowski et al.
2011/0143811 A1 6/2011 Rodriguez
2011/0153740 A1 6/2011 Smith et al.
2011/0154223 A1* 6/2011 Whitnah G06Q 10/10 715/753
2011/0161319 A1 6/2011 Chunilal
2011/0161348 A1 6/2011 Oron
2011/0173235 A1 7/2011 Aman et al.
2011/0179025 A1 7/2011 Chuang
2011/0188742 A1 8/2011 Yu et al.
2011/0191447 A1 8/2011 Dazzi et al.
2011/0202430 A1 8/2011 Narayanan et al.
2011/0209191 A1 8/2011 Shah
2011/0211737 A1* 9/2011 Krupka et al. 382/118
2011/0212717 A1 9/2011 Rhoads et al.
2011/0214059 A1 9/2011 King et al.
2011/0216075 A1 9/2011 Shigeta et al.
2011/0225608 A1 9/2011 Lopatecki et al.
2011/0228918 A1 9/2011 Ayers et al.
2011/0231488 A1 9/2011 Xu
2011/0231494 A1* 9/2011 Pasquero H04L 51/32 709/206
2011/0238755 A1 9/2011 Khan et al.
2011/0246574 A1 10/2011 Lento et al.
2011/0249078 A1 10/2011 Abuan et al.
2011/0258556 A1 10/2011 Kiciman et al.
2011/0267269 A1 11/2011 Tardif et al.
2011/0270719 A1 11/2011 Hollars et al.
2011/0279637 A1 11/2011 Periyannan et al.
2011/0282947 A1 11/2011 Dodson
2011/0282965 A1 11/2011 Dodson
2011/0283203 A1 11/2011 Periyannan et al.
2011/0283236 A1 11/2011 Beaumier et al.
2011/0296004 A1 12/2011 Swahar
2011/0311199 A1 12/2011 Fay et al.
2012/0016817 A1 1/2012 Smith et al.
2012/0019610 A1 1/2012 Hornyak et al.
2012/0041822 A1 2/2012 Landry et al.
2012/0041907 A1 2/2012 Wang et al.
2012/0047565 A1 2/2012 Petersen
2012/0059884 A1 3/2012 Rothschild
2012/0066722 A1 3/2012 Cheung et al.
2012/0079119 A1 3/2012 Gill et al.
2012/0083286 A1 4/2012 Kim et al.
2012/0084666 A1 4/2012 Hickman
2012/0084731 A1 4/2012 Filman et al.
2012/0092439 A1 4/2012 Mackie et al.
2012/0102124 A1 4/2012 Hansson et al.
2012/0102403 A1 4/2012 Pennington et al.
2012/0113285 A1 5/2012 Baker et al.
2012/0192220 A1 7/2012 Wyatt et al.
2012/0192225 A1 7/2012 Harwell et al.
2012/0192239 A1 7/2012 Harwell et al.
2012/0197732 A1 8/2012 Shen et al.
2012/0203831 A1 8/2012 Schoen et al.
2012/0221639 A1 8/2012 Mallet et al.
2012/0246244 A1 9/2012 Mallet et al.
2012/0246266 A1 9/2012 Mallet et al.
2012/0246267 A1 9/2012 Mallet et al.
2012/0317235 A1 12/2012 Nguyen et al.
2012/0320013 A1 12/2012 Perez et al.
2013/0013462 A1 1/2013 Deng et al.
2013/0063542 A1 3/2013 Bhat et al.
2013/0073622 A1 3/2013 Nguyen et al.
2013/0073623 A1 3/2013 Nguyen et al.
2013/0073624 A1 3/2013 Nguyen et al.
2013/0238739 A1 9/2013 Mallet et al.
2014/0025679 A1 1/2014 Mallet et al.
2014/0025748 A1 1/2014 Mallet et al.
2014/0025765 A1 1/2014 Mallet et al.
2014/0025778 A1 1/2014 Nguyen et al.
2014/0025787 A1 1/2014 Nguyen et al.
2014/0032673 A1 1/2014 Mallet et al.
2014/0032674 A1 1/2014 Nguyen et al.
2014/0068065 A1 3/2014 Mallet et al.
2015/0207835 A1 7/2015 Nguyen et al.
2015/0281160 A1 10/2015 Mallet et al.
2015/0302078 A1 10/2015 Mallet et al.
2015/0302079 A1 10/2015 Mallet et al.
2015/0302080 A1 10/2015 Mallet et al.
2015/0302082 A1 10/2015 Mallet et al.
2015/0304432 A1 10/2015 Mallet et al.

FOREIGN PATENT DOCUMENTS

DE 202012012895 U1 3/2014
WO WO-2012/129400 A2 9/2012
WO WO-2012129400 A3 9/2012
WO WO-2013044003 A1 3/2013

OTHER PUBLICATIONS

"U.S. Appl. No. 13/887,529, Response filed Sep. 8, 2014 to Non Final Office Action mailed Jun. 6, 2014", 10 pgs.
"U.S. Appl. No. 14/034,464, Examiner Interview Summary mailed Aug. 29, 2014", 3 pgs.
"U.S. Appl. No. 14/034,464, Notice of Allowance mailed Oct. 7, 2014", 11 pgs.
"U.S. Appl. No. 14/034,464, Response filed Sep. 11, 2014 to Final Office Action mailed Jun. 11, 2014", 12 pgs.
"U.S. Appl. No. 14/034,469, Examiner Interview Summary mailed Aug. 6, 2014", 3 pgs.
"U.S. Appl. No. 14/034,469, Notice of Allowance mailed Sep. 26, 2014", 5 pgs.
"U.S. Appl. No. 14/034,469, Response filed Aug. 19, 2014 to Final Office Action mailed May 2, 2014", 10 pgs.
"U.S. Appl. No. 14/034,476, Examiner Interview Summary mailed Aug. 4, 2014", 3 pgs.
"U.S. Appl. No. 14/034,476, Notice of Allowance mailed Sep. 15, 2014", 12 pgs.
"U.S. Appl. No. 14/034,476, Response filed Aug. 19, 2014 to Final Office Action mailed May 1, 2014", 11 pgs.
"U.S. Appl. No. 14/034,481, Examiner Interview Summary mailed Aug. 4, 2014", 3 pgs.
"U.S. Appl. No. 14/034,481, Notice of Allowance mailed Sep. 24, 2014", 11 pgs.
"U.S. Appl. No. 14/034,483, Examiner Interview Summary mailed Aug. 8, 2014", 3 pgs.
"U.S. Appl. No. 14/034,483, Notice of Allowance mailed Sep. 29, 2014", 12 pgs.
"U.S. Appl. No. 14/034,483, Response filed Aug. 20, 2014 to Final Office Action mailed Jun. 4, 2014", 11 pgs.
"U.S. Appl. No. 14/035,271, Notice of Allowance mailed Sep. 12, 2014", 12 pgs.

(56) **References Cited**

OTHER PUBLICATIONS

"U.S. Appl. No. 14/035,306, Examiner Interview Summary mailed Sep. 4, 2014", 3 pgs.
"U.S. Appl. No. 14/035,306, Notice of Allowance mailed Oct. 16, 2014", 12 pgs.
"U.S. Appl. No. 14/035,306, Response filed Sep. 25, 2014 to Final Office Action mailed Jun. 27, 2014", 12 pgs.
"U.S. Appl. No. 14/035,333, Examiner Interview Summary mailed Aug. 11, 2014", 3 pgs.
"U.S. Appl. No. 14/035,333, Non Final Office Action mailed Oct. 9, 2014", 13 pgs.
"U.S. Appl. No. 14/035,333, Response filed Aug. 20, 2014 to Final Office Action mailed Jun. 2, 2014", 11 pgs.
"U.S. Appl. No. 14/035,333, Supplemental Amendment filed Sep. 25, 2014", 7 pgs.
"U.S. Appl. No. 14/036,769, Examiner Interview Summary mailed Aug. 8, 2014", 3 pgs.
"U.S. Appl. No. 14/036,769, Notice of Allowance mailed Sep. 12, 2014", 9 pgs.
"U.S. Appl. No. 14/036,769. Response filed Aug. 15, 2014 to Final Office Action mailed May 16, 2014", 12 pgs.
"U.S. Appl. No. 14/036,816, Notice of Allowance mailed Sep. 5, 2014", 13 pgs.
"U.S. Appl. No. 14/036,848. Response filed Sep. 11, 2014 to Final Office Action mailed Jun. 11, 2014", 10 pgs.
"U.S. Appl. No. 14/036,871, Examiner Interview Summary mailed Aug. 19, 2014", 3 pgs.
"U.S. Appl. No. 14/036,871. Response filed Aug. 27, 2014 to Final Office Action mailed May 27, 2014", 12 pgs.
"European Application Serial No. 12834085.8, Response filed Aug. 13, 2014 to Office Action mailed Feb. 21, 2014", 11 pgs.
"U.S. Appl. No. 13/398,227, filed Feb. 16, 2012", 94 pgs.
"U.S. Appl. No. 13/398,227, Examiner Interview Summary mailed Aug. 20, 2012", 3 pgs.
"U.S. Appl. No. 13/398,227, Non Final Office Action mailed Jul. 2, 2012", 23 pgs.
"U.S. Appl. No. 13/398,227, Notice of Allowance mailed Nov. 14, 2012", 16 pgs.
"U.S. Appl. No. 13/398,227, Response filed Aug. 24, 2012 to Non Final Office Action mailed Jul. 2, 2012", 15 pgs.
"U.S. Appl. No. 13/398,296, Response filed Aug. 9, 2012 to Non Final Office Action mailed May 14, 2012", 12 pgs.
"U.S. Appl. No. 13/398,296, Non Final Office Action mailed May 14, 2012", 11 pgs.
"U.S. Appl. No. 13/398,296, Notice of Allowance mailed Oct. 10, 2012", 14 pgs.
"U.S. Appl. No. 13/398,402, Examiner Interview Summary mailed Aug. 6, 2012", 3 pgs.
"U.S. Appl. No. 13/398,402, Examiner Interview Summary mailed Nov. 15, 2012", 26 pgs.
"U.S. Appl. No. 13/398,402, Non Final Office Action mailed Apr. 12, 2012", 35 pgs.
"U.S. Appl. No. 13/398,402, Non Final Office Action mailed Sep. 28, 2012", 30 pgs.
"U.S. Appl. No. 13/398,402, Notice of Allowance mailed Feb. 6, 2013", 12 pgs.
"U.S. Appl. No. 13/398,402, Response filed Jul. 12, 2012 to Non Final Office Action mailed Apr. 12, 2012", 20 pgs.
"U.S. Appl. No. 13/398,443, Restriction Requirement mailed May 11, 2012", 5 pgs.
"U.S. Appl. No. 13/398,445, Response filed Oct. 1, 2012 to Non Final Office Action mailed Jul. 17, 2012", 13 pgs.
"U.S. Appl. No. 13/398,445, Application filed Feb. 16, 2012", 93 pgs.
"U.S. Appl. No. 13/398,445, Non Final Office Action mailed Jan. 4, 2013", 6 pgs.
"U.S. Appl. No. 13/398,445, Non Final Office Action mailed Jul. 17, 2012", 6 pgs.
"U.S. Appl. No. 13/398,445, Notice of Allowance mailed Feb. 28, 2013", 7 pgs.
"U.S. Appl. No. 13/398,445, Response filed Jan. 18, 2013 to Non Final Office Action mailed Jan. 4, 2013", 8 pgs.
"U.S. Appl. No. 13/398,445, Response filed Jun. 7, 2012 to Restriction Requirement mailed May 11, 2012", 8 pgs.
"U.S. Appl. No. 13/404,356, Response filed Nov. 5, 2012 to Final Office Action mailed Aug. 31, 2012", 14 pgs.
"U.S. Appl. No. 13/404,356, Examiner Interview Summary mailed Aug. 13, 2012", 17 pgs.
"U.S. Appl. No. 13/404,356, Examiners Interview Summary mailed Nov. 7, 2012", 3 pgs.
"U.S. Appl. No. 13/404,356, Final Office Action mailed Aug. 31, 2012", 29 pgs.
"U.S. Appl. No. 13/404,356, Non Final Office Action mailed May 8, 2012", 22 pgs.
"U.S. Appl. No. 13/404,356, Notice of Allowance mailed Nov. 27, 2012", 19 pgs.
"U.S. Appl. No. 13/404,356, Response filed Aug. 8, 2012 to Non Final Office Action mailed May 8, 2012", 14 pgs.
"U.S. Appl. No. 13/404,370, Response filed Aug. 9, 2012 to Non Final Office Action mailed May 9, 2012", 12 pgs.
"U.S. Appl. No. 13/404,370, Examiner Interview Summary mailed Aug. 10, 2012", 3 pgs.
"U.S. Appl. No. 13/404,370, Examiners Interview Summary mailed Nov. 13, 2012", 3 pgs.
"U.S. Appl. No. 13/404,370, Non Final Office Action mailed May 9, 2012", 22 pgs.
"U.S. Appl. No. 13/404,370, Notice of Allowance mailed Nov. 14, 2012", 16 pgs.
"U.S. Appl. No. 13/404,370, Supplemental Notice of Allowability mailed Jan. 30, 2013", 5 pgs.
"U.S. Appl. No. 13/404,370, Supplemental Notice of Allowability mailed Dec. 19, 2012", 7 pgs.
"U.S. Appl. No. 13/404,381, Examiner Interview Summary mailed Aug. 9, 2012", 3 pgs.
"U.S. Appl. No. 13/404,381, Examiners Interview Summary mailed Nov. 6, 2012", 3 pgs.
"U.S. Appl. No. 13/404,381, Final Office Action mailed Aug. 27, 2012", 24 pgs.
"U.S. Appl. No. 13/404,381, Non Final Office Action mailed May 11, 2012", 19 pgs.
"U.S. Appl. No. 13/404,381, Notice of Allowance mailed Jan. 22, 2013", 7 pgs.
"U.S. Appl. No. 13/404,381, Response filed Oct. 26, 2012 to Final Office Action mailed Aug. 27, 2012", 14 pgs.
"U.S. Appl. No. 13/404,393, Examiner Interview Summary mailed Aug. 14, 2012", 3 pgs.
"U.S. Appl. No. 13/404,393, Examiners Interview Summary mailed Oct. 29, 2012", 3 pgs.
"U.S. Appl. No. 13/404,393, Non Final Office Action mailed May 16, 2012", 20 pgs.
"U.S. Appl. No. 13/404,393, Notice of Allowance mailed Nov. 27, 2012", 16 pgs.
"U.S. Appl. No. 13/404,393, Response filed Aug. 14, 2012 to Non Final Office Action mailed May 16, 2012", 11 pgs.
"U.S. Appl. No. 61/466,849, filed Mar. 23, 2011".
"International Application Serial No. PCT/US2012/030115, International Search Report mailed Jun. 20, 2012", 4 pgs.
"International Application Serial No. PCT/US2012/030115, Written Opinion mailed Jun. 20, 2012", 8 pgs.
"International Application Serial No. PCT/US2012/056531, International Search Report mailed Nov. 29, 2012", 2 pgs.
"International Application Serial No. PCT/US2012/056531, Written Opinion mailed Nov. 29, 2012", 6 pgs.
"European Application Serial No. 12760367.8, Response filed Nov. 11, 2014", 13 pgs.
"U.S. Appl. No. 13/887,529, Non Final Office Action mailed Jun. 6, 2014", 10 pgs.
"U.S. Appl. No. 14/034,464, Final Office Action mailed Jun. 11, 2014", 13 pgs.
"U.S. Appl. No. 14/034,464, Notice of Non-Compliant Amendment mailed Apr. 10, 2014", 2 pgs.
"U.S. Appl. No. 14/034,464, Response filed May 12, 2014 to Non-Compliant Amendment mailed Apr. 10, 2014", 7 pgs.

(56) **References Cited**

OTHER PUBLICATIONS

"U.S. Appl. No. 14/034,469, Final Office Action mailed May 2, 2014", 12 pgs.
"U.S. Appl. No. 14/034,476, Final Office Action mailed May 1, 2014", 15 pgs.
"U.S. Appl. No. 14/034,481, Final Office Action mailed Apr. 30, 2014", 15 pgs.
"U.S. Appl. No. 14/034,481, Response filed Jul. 30, 2014 to Final Office Action mailed Apr. 30, 2014", 10 pgs.
"U.S. Appl. No. 14/034,483, Examiner Interview Summary mailed May 5, 2014", 3 pgs.
"U.S. Appl. No. 14/034,483, Final Office Action mailed Jun. 4, 2014", 12 pgs.
"U.S. Appl. No. 14/034,483, Response filed May 5, 2014 to Non Final Office Action mailed Feb. 5, 2014", 12 pgs.
"U.S. Appl. No. 14/035,271, Examiner Interview Summary mailed Jun. 2, 2014", 3 pgs.
"U.S. Appl. No. 14/035,271, Response filed May 28, 2014 to Non Final Office Action mailed Feb. 28, 2014", 13 pages.
"U.S. Appl. No. 14/035,291, Examiner Interview Summary mailed May 6, 2014", 3 pgs.
"U.S. Appl. No. 14/035,291, Notice of Allowance mailed Jun. 13, 2014", 13 pgs.
"U.S. Appl. No. 14/035,291, Response filed May 13, 2014 to Non Final Office Action mailed Feb. 13, 2014", 12 pgs.
"U.S. Appl. No. 14/035,306, Examiner Interview Summary mailed Jun. 3, 2014", 3 pgs.
"U.S. Appl. No. 14/035,306, Final Office Action mailed Jun. 27, 2014", 12 pgs.
"U.S. Appl. No. 14/035,306, Response filed May 29, 2014 to Final Office Action mailed Mar. 3, 2014", 12 pgs.
"U.S. Appl. No. 14/035,333, Examiner Interview Summary mailed May 6, 2014", 3 pgs.
"U.S. Appl. No. 14/035,333, Final Office Action mailed Jun. 2, 2014", 13 pgs.
"U.S. Appl. No. 14/035,333, Response filed May 20, 2014 to Non Final Office Action mailed Feb. 20, 2014", 11 pgs.
"U.S. Appl. No. 14/035,347, Examiner Interview Summary mailed Jun. 3, 2014", 3 pgs.
"U.S. Appl. No. 14/035,347, Notice of Allowance mailed Jul. 9, 2014", 12 pgs.
"U.S. Appl. No. 14/035,347, Response filed May 27, 2014 to Non Final Office Action mailed Feb. 27, 2014", 11 pgs.
"U.S. Appl. No. 14/036,769, Examiner Interview Summary mailed May 5, 2014", 3 pgs.
"U.S. Appl. No. 14/036,769, Final Office Action mailed May 16, 2014", 12 pgs.
"U.S. Appl. No. 14/036,769, Response filed Apr. 30, 2014 to Non Final Office Action mailed Jan. 31, 2014", 11 pgs.
"U.S. Appl. No. 14/036,796, Examiner Interview Summary mailed Jun. 9, 2014", 3 pgs.
"U.S. Appl. No. 14/036,796, Notice of Allowance mailed Jun. 30, 2014", 12 pgs.
"U.S. Appl. No. 14/036,796, Response filed Jun. 10, 2014 to Non Final Office Action mailed Mar. 10, 2014", 14 pgs.
"U.S. Appl. No. 14/036,816, Examiner Interview Summary mailed Jun. 9, 2014", 3 pgs.
"U.S. Appl. No. 14/036,816, Response filed Jun. 12, 2014 to Non Final Office Action mailed Mar. 12, 2014", 12 pgs.
"U.S. Appl. No. 14/036,832, Examiner Interview Summary May 5, 2014", 3 pgs.
"U.S. Appl. No. 14/036,832, Notice of Allowance mailed Jul. 9, 2014", 11 pgs.
"U.S. Appl. No. 14/036,832, Response filed May 5, 2014 to Non Final Office Action mailed Feb. 5, 2014", 14 pgs.
"U.S. Appl. No. 14/036,848, Examiner Interview Summary mailed Apr. 22, 2014", 3 pgs.
"U.S. Appl. No. 14/036,848, Final Office Action mailed Jun. 11, 2014", 11 pgs.
"U.S. Appl. No. 14/036,848, Response filed Apr. 21, 2014 to Non Final Office Action mailed Jan. 21, 2014", 8 pgs.
"U.S. Appl. No. 14/036,871, Final Office Action mailed May 27, 2014", 13 pgs.
"European Application Serial No. 12760367.8, Office Action mailed May 6, 2014", 3 pgs.
"International Application Serial No. PCT/US2012/056531, International Preliminary Report on Patentability mailed Apr. 3, 2014", 8 pgs.
"U.S. Appl. No. 14/034,469, Response filed Apr. 9, 2014 to Non Final Office Action mailed Jan. 22, 2014", 12 pgs.
"U.S. Appl. No. 14/034,476, Response filed Apr. 7, 2014 to Non Final Office Action mailed Jan. 6, 2014", 11 pgs.
"U.S. Appl. No. 14/036,871, Examiner Interview Summary mailed Apr. 17, 2014", 3 pgs.
"U.S. Appl. No. 14/036,871, Response filed Apr. 10, 2014 to Non Final Office Action mailed Jan. 10, 2014", 16 pgs.
"International Application Serial No. PCT/US2012/030115, International Preliminary Report on Patentability mailed Mar. 27, 2014", 10 pgs.
"U.S. Appl. No. 13/398,402, 312 Amendment filed Aug. 15, 2013", 10 pgs.
"U.S. Appl. No. 13/398,402, Notice of Allowance mailed Jun. 10, 2013", 8 pgs.
"U.S. Appl. No. 13/398,402, PTO Response to 312 Amendment mailed Aug. 27, 2013", 2 pgs.
"U.S. Appl. No. 13/398,402, Response filed Nov. 27, 2012 to Non Final Office Action mailed Sep. 28, 2012", 16 pgs.
"U.S. Appl. No. 13/404,381, Notice of Allowance mailed May 10, 2013", 9 pgs.
"U.S. Appl. No. 13/404,381, Response filed Aug. 9, 2012 to Non Final Office Action mailed May 11, 2012", 13 pgs.
"U.S. Appl. No. 13/887,529, Preliminary Amendment filed May 8, 2013", 6 pgs.
"U.S. Appl. No. 13/887,529, Supplemental Preliminary Amendment mailed Nov. 8, 2013", 8 pgs.
"U.S. Appl. No. 14/034,464, Examiner Interview Summary mailed Jan. 22, 2014", 3 pgs.
"U.S. Appl. No. 14/034,464, Examiner Interview Summary mailed Apr. 1, 2014", 3 pgs.
"U.S. Appl. No. 14/034,464, Non Final Office Action mailed Jan. 3, 2014", 13 pgs.
"U.S. Appl. No. 14/034,464, Preliminary Amendment filed Oct. 18, 2013", 8 pgs.
"U.S. Appl. No. 14/034,464, Response filed Apr. 1, 2014 to Non Final Office Action mailed Jan. 3, 2014", 12 pgs.
"U.S. Appl. No. 14/034,469, Examiner Interview Summary mailed Apr. 4, 2014", 3 pgs.
"U.S. Appl. No. 14/034,469, Non Final Office Action mailed Jan. 22, 2014", 11 pgs.
"U.S. Appl. No. 14/034,469, Preliminary Amendment filed Oct. 18, 2013", 8 pgs.
"U.S. Appl. No. 14/034,476, Examiner Interview Summary mailed Apr. 4, 2014", 3 pgs.
"U.S. Appl. No. 14/034,476, Non Final Office Action mailed Jan. 6, 2014", 13 pgs.
"U.S. Appl. No. 14/034,476, Preliminary Amendment filed Oct. 18, 2013", 9 pgs.
"U.S. Appl. No. 14/034,481, Examiner Interview Summary mailed Apr. 4, 2014", 3 pgs.
"U.S. Appl. No. 14/034,481, Non Final Office Action mailed Jan. 9, 2014", 14 pgs.
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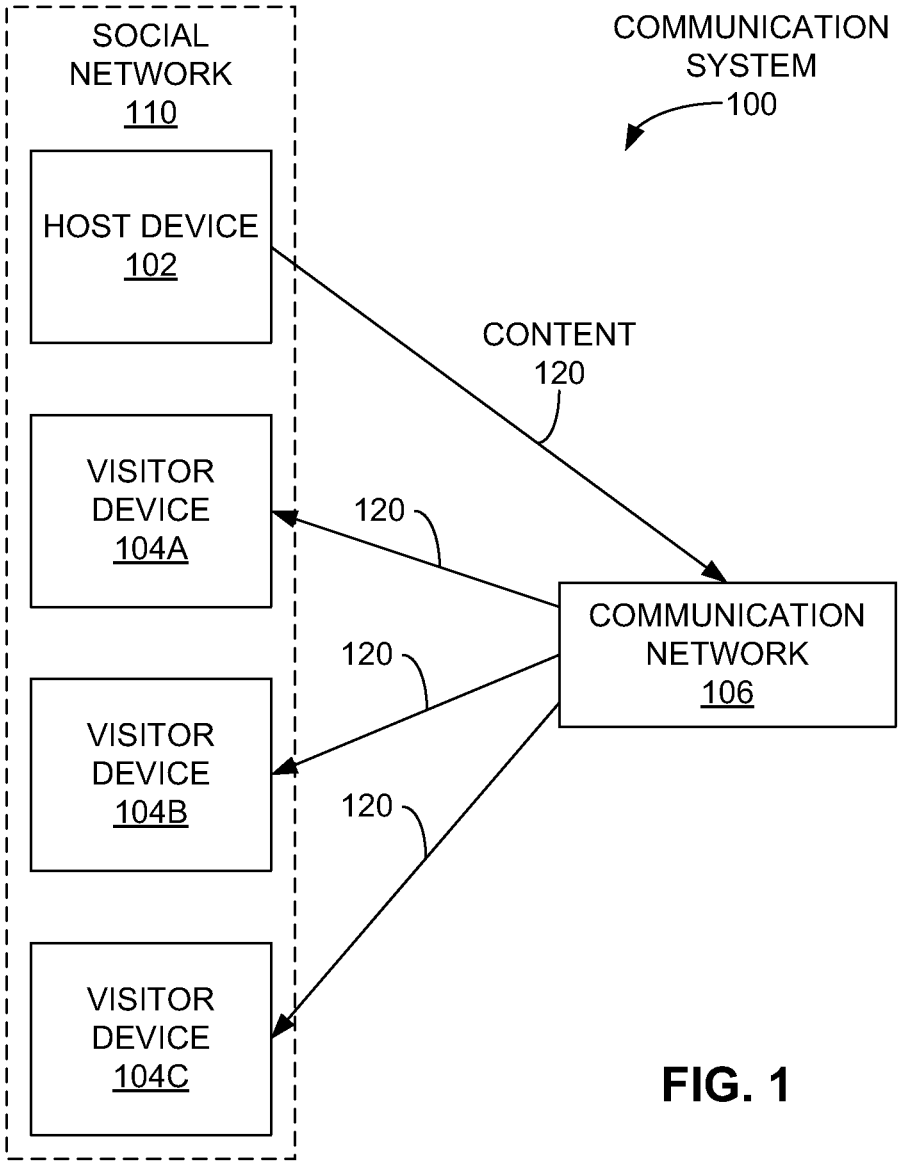
"U.S. Appl. No. 14/034,483, Non Final Office Action mailed Feb. 5, 2014", 12 pgs.
"U.S. Appl. No. 14/034,483, Preliminary Amendment filed Oct. 18, 2013", 8 pgs.
"U.S. Appl. No. 14/035,271, Non Final Office Action mailed Feb. 28, 2014", 11 pgs.
"U.S. Appl. No. 14/035,271, Preliminary Amendment filed Nov. 13, 2013", 8 pgs.

(56) **References Cited**

OTHER PUBLICATIONS

"U.S. Appl. No. 14/035,291, Non Final Office Action mailed Feb. 13, 2014", 11 pgs.
"U.S. Appl. No. 14/035,291, Preliminary Amendment filed Nov. 13, 2013", 8 pgs.
"U.S. Appl. No. 14/035,306, Non Final Office Action mailed Mar. 3, 2014", 12 pgs.
"U.S. Appl. No. 14/035,306, Preliminary Amendment filed Oct. 24, 2013", 9 pgs.
"U.S. Appl. No. 14/035,333, Non Final Office Action mailed Feb. 20, 2014", 12 pgs.
"U.S. Appl. No. 14/035,333, Preliminary Amendment filed Oct. 18, 2013", 8 pgs.
"U.S. Appl. No. 14/035,347, Non Final Office Action mailed Feb. 27, 2014", 11 pgs.
"U.S. Appl. No. 14/035,347, Preliminary Amendment filed Oct. 23, 2013", 8 pgs.
"U.S. Appl. No. 14/036,769, Non Final Office Action mailed Jan. 31, 2014", 11 pgs.
"U.S. Appl. No. 14/036,769, Preliminary Amendment filed Nov. 8, 2013", 8 pgs.
"U.S. Appl. No. 14/036,796, Non Final Office Action mailed Mar. 10, 2014", 12 pgs.
"U.S. Appl. No. 14/036,796, Preliminary Amendment filed Oct. 8, 2013", 9 pgs.
"U.S. Appl. No. 14/036,816, Non Final Office Action mailed Mar. 12, 2014", 13 pgs.
"U.S. Appl. No. 14/036,816, Preliminary Amendment filed Oct. 23, 2013", 8 pgs.
"U.S. Appl. No. 14/036,832, Non Final Office Action mailed Feb. 5, 2014", 14 pgs.
"U.S. Appl. No. 14/036,832, Preliminary Amendment filed Nov. 8, 2013", 10 pgs.
"U.S. Appl. No. 14/036,848, Non Final Office Action mailed Jan. 21, 2014", 9 pgs.
"U.S. Appl. No. 14/036,848, Preliminary Amendment filed Nov. 8, 2013", 8 pgs.
"U.S. Appl. No. 14/036,871, Non Final Office Action mailed Jan. 10, 2014", 12 pgs.
"U.S. Appl. No. 14/036,871, Preliminary Amendment filed Nov. 13, 2013", 8 pgs.
"European Application Serial No. 12834085.8, Office Action mailed Feb. 21, 2014", 3 pgs.
"U.S. Appl. No. 14/034,481, Response filed Apr. 8, 2014 to Non Final Office Action mailed Jan. 9, 2014", 13 pgs.
"U.S. Appl. No. 14/675,503, Examiner Interview Summary mailed Oct. 27, 2015", 3 pgs.
"U.S. Appl. No. 14/675,503, Non Final Office Action mailed Aug. 20, 2015", 15 pgs.
"U.S. Appl. No. 14/825,929, Preliminary Amendment filed Aug. 18, 2015", 11 pgs.
"U.S. Appl. No. 14/825,943, Preliminary Amendment filed Aug. 18, 2015", 10 pgs.
"U.S. Appl. No. 14/825,958, Preliminary Amendment filed Aug. 18, 2015", 10 pgs.
"U.S. Appl. No. 14/825,974, Preliminary Amendment filed Aug. 18, 2015", 10 pgs.
"U.S. Appl. No. 14/825,985, Preliminary Amendment filed Aug. 18, 2015", 10 pgs.
"U.S. Appl. No. 13/887,529, Final Office Action mailed Dec. 12, 2014", 11 pgs.
"U.S. Appl. No. 13/887,529, Notice of Allowance mailed Feb. 25, 2015", 7 pgs.
"U.S. Appl. No. 13/887,529, Response filed Feb. 2, 2015 to Final Office Action mailed Dec. 12, 2014", 9 pgs.
"U.S. Appl. No. 14/035,333, Examiner Interview Summary mailed Mar. 4, 2015", 3 pgs.
"U.S. Appl. No. 14/035,333, Final Office Action mailed Jan. 29, 2015", 7 pgs.
"U.S. Appl. No. 14/035,333, Notice of Allowance mailed Mar. 23, 2015", 11 pgs.
"U.S. Appl. No. 14/035,333, Response filed Jan. 6, 2015 to Non Final Office Action mailed Oct. 9, 2014", 12 pgs.
"U.S. Appl. No. 14/035,333, Response filed Mar. 3, 2015 to Final Office Action mailed Jan. 29, 2015", 7 pgs.
"U.S. Appl. No. 14/036,848, Examiner Interview Summary mailed Feb. 11, 2015", 3 pgs.
"U.S. Appl. No. 14/036,848, Final Office Action mailed Dec. 22, 2014", 10 pgs.
"U.S. Appl. No. 14/036,848, Notice of Allowance mailed Apr. 28, 2015", 7 pgs.
"U.S. Appl. No. 14/036,848, Response filed Mar. 2, 2015 to Final Office Action mailed Dec. 22, 2014", 8 pgs.
"U.S. Appl. No. 14/036,871, Examiner Interview Summary mailed Feb. 26, 2015", 3 pgs.
"U.S. Appl. No. 14/036,871, Non Final Office Action mailed Dec. 22, 2014", 11 pgs.
"U.S. Appl. No. 14/036,871, Notice of Allowance mailed Apr. 29, 2015", 7 pgs.
"U.S. Appl. No. 14/675,503, Preliminary Amendment filed Jun. 17, 2015", 8 pgs.
"U.S. Appl. No. 14/675,512, Non Final Office Action mailed May 13, 2015", 11 pgs.
"U.S. Appl. No. 14/675,512, Response filed Aug. 11, 2015 to Non Final Office Action mailed May 13, 2015", 10 pgs.
"U.S. Appl. No. 14/754,549, Preliminary Amendment filed Jul. 8, 2015", 8 pgs.
"U.S. Appl. No. 14/754,562, Preliminary Amendment filed Jul. 8, 2015", 7 pgs.
"U.S. Appl. No. 14/754,582, Preliminary Amendment filed Jul. 7, 2015", 8 pgs.
"U.S. Appl. No. 14/754,597, Preliminary Amendment filed Jul. 8, 2015", 9 pgs.
"U.S. Appl. No. 14/754,601, Preliminary Amendment filed Jul. 8, 2015", 10 pgs.
"U.S. Appl. No. 14/036,871, Response filed Mar. 23, 2015 to Non Final Office Action mailed Dec. 22, 2014", 9 pgs.
"European Application Serial No. 12760367.8, Extended European Search Report mailed Jun. 3, 2015", 6 pgs.
"European Application Serial No. 12834085.8, Extended European Search Report mailed Feb. 6, 2015", 6 pgs.

* cited by examiner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COMMUNICATION SYSTEM 100
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CONTENT 120
VISITOR DEVICE 104A
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VISITOR DEVICE 104B
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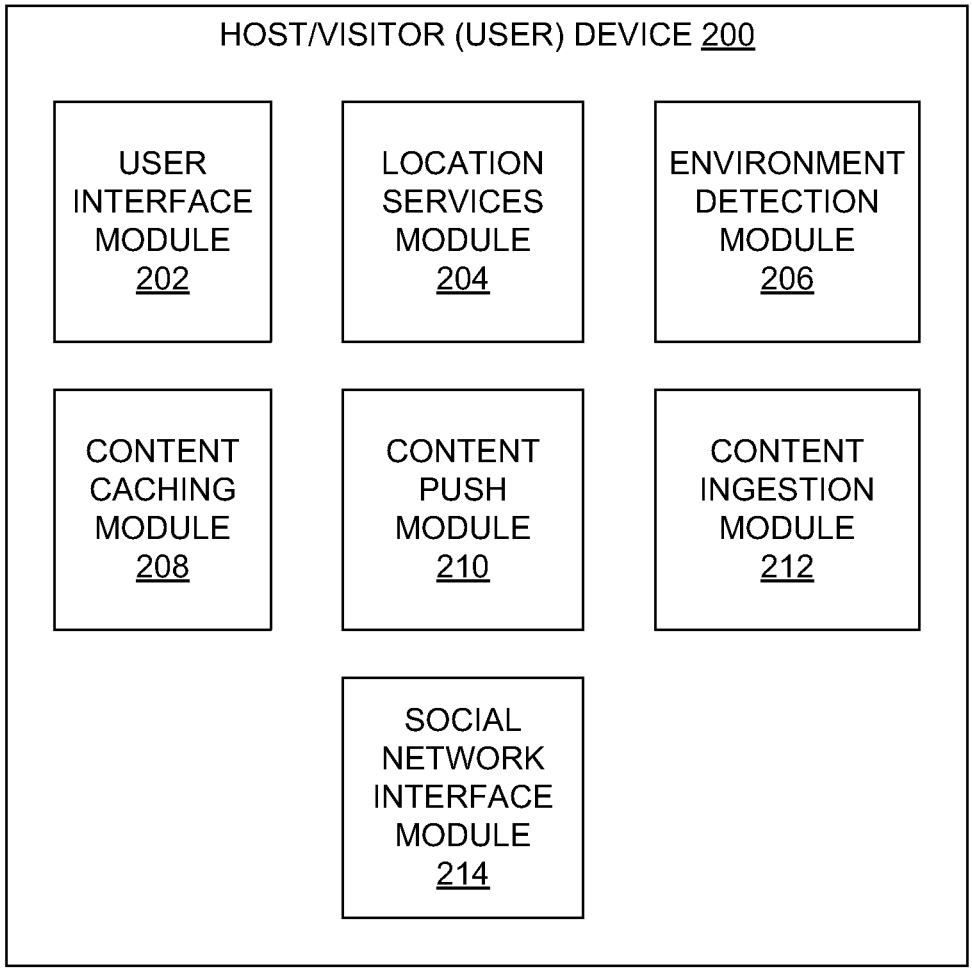
VISITOR DEVICE 104C

FIG. 1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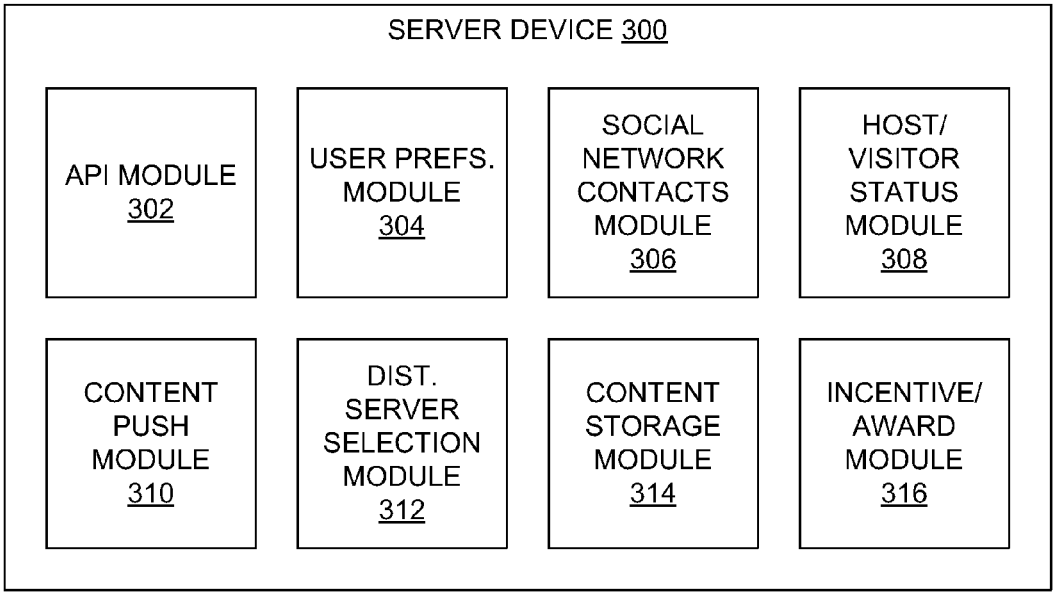
CONTENT PUSH MODULE 210
CONTENT INGESTION MODULE 212
SOCIAL NETWORK INTERFACE MODULE 214

FIG. 2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API MODULE 302
USER PREFS. MODULE 304
SOCIAL NETWORK CONTACTS MODULE 306
HOST/ VISITOR STATUS MODULE 308
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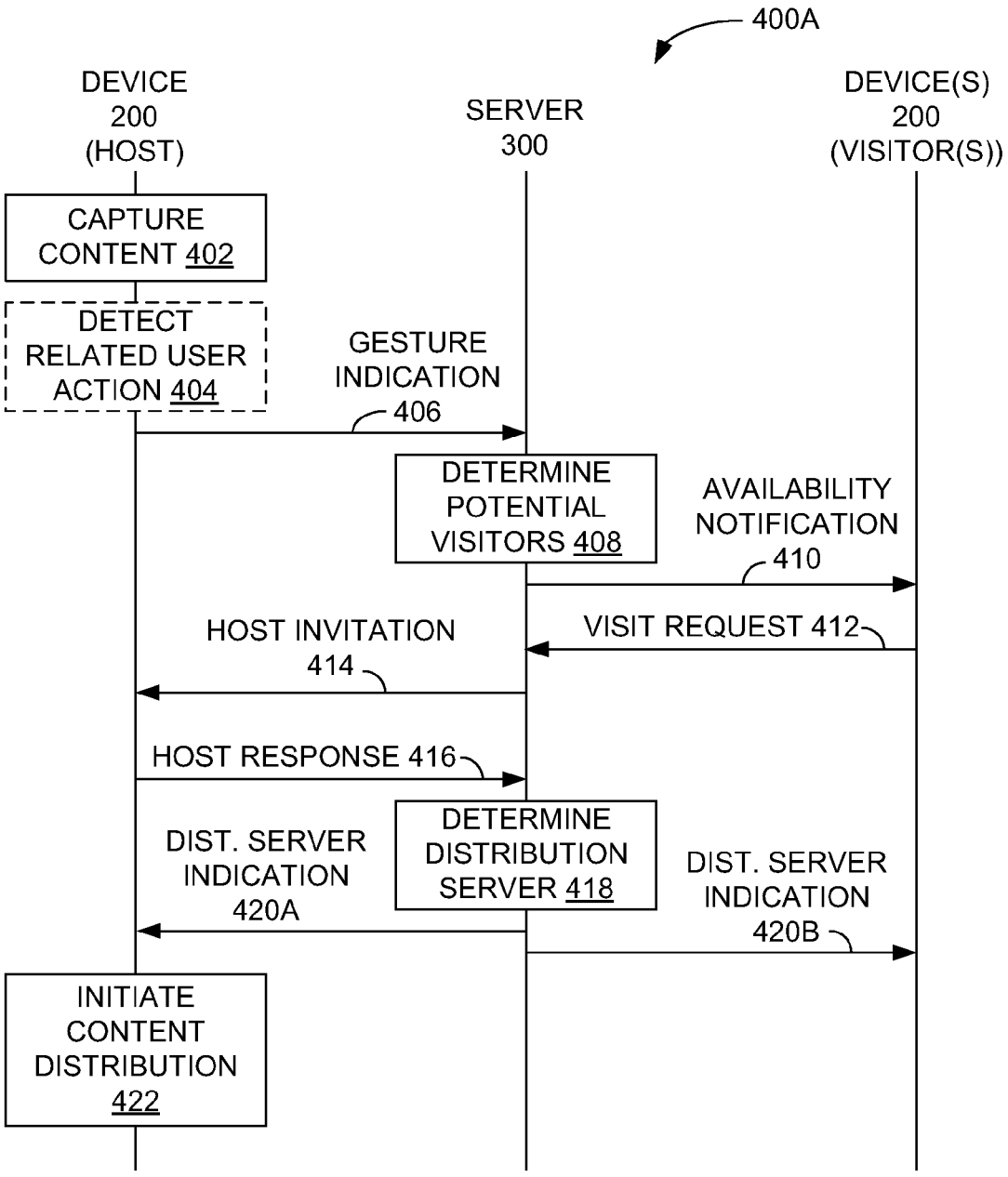
DIST. SERVER SELECTION MODULE 312
CONTENT STORAGE MODULE 314
INCENTIVE/ AWARD MODULE 316

FIG. 3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SERVER 300
DEVICE(S) 200 (VISITOR(S))
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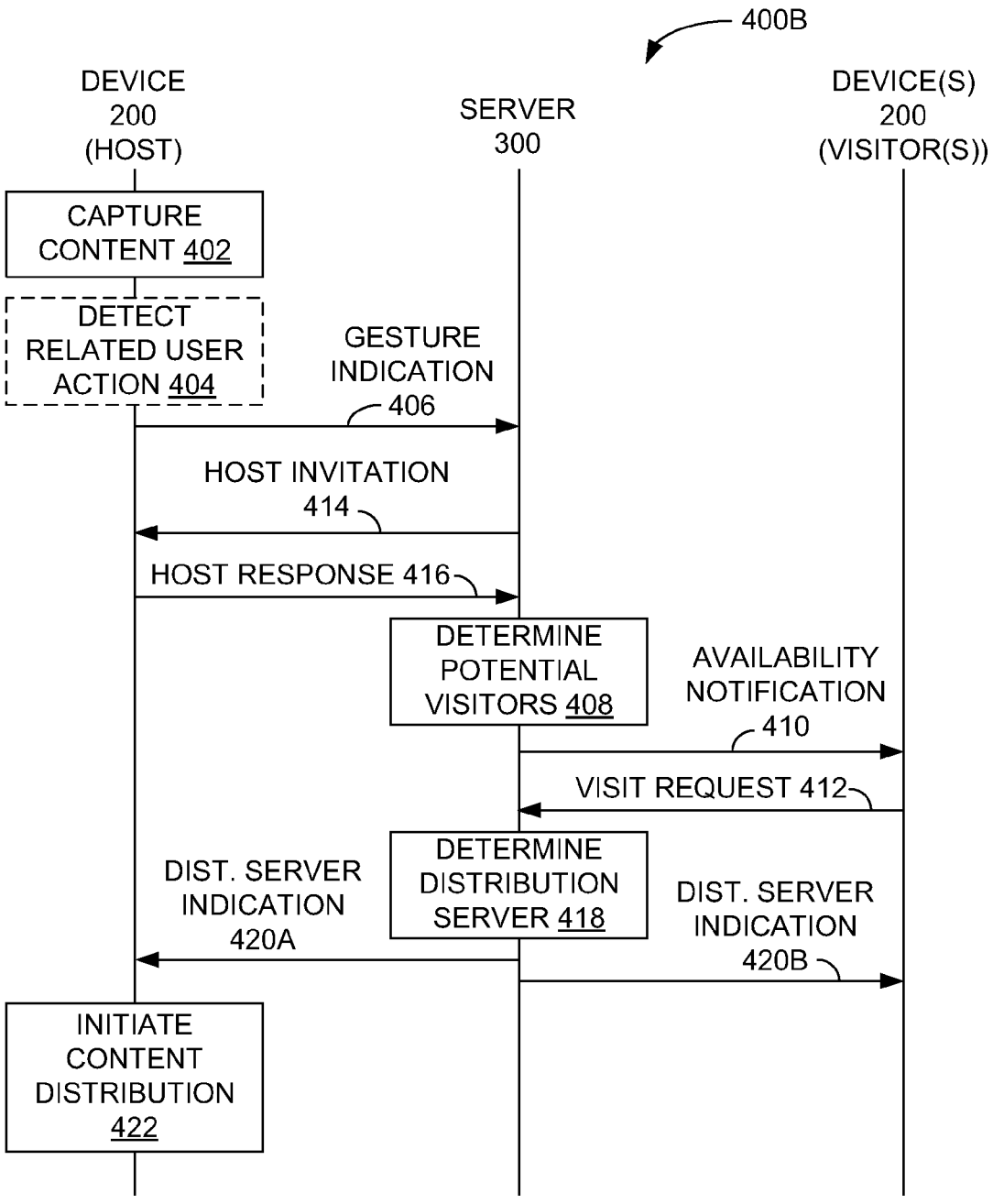
DETECT RELATED USER ACTION 404
GESTURE INDICATION 406
DETERMINE POTENTIAL VISITORS 408
AVAILABILITY NOTIFICATION 410
VISIT REQUEST 412
HOST INVITATION 414
HOST RESPONSE 416
DETERMINE DISTRIBUTION SERVER 418
DIST. SERVER INDICATION 420A
DIST. SERVER INDICATION 420B
INITIATE CONTENT DISTRIBUTION 422

FIG. 4A


400B
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SERVER 300
DEVICE(S) 200 (VISITOR(S))
CAPTURE CONTENT 402
DETECT RELATED USER ACTION 404
GESTURE INDICATION 406
HOST INVITATION 414
HOST RESPONSE 416
DETERMINE POTENTIAL VISITORS 408
AVAILABILITY NOTIFICATION 410
VISIT REQUEST 412
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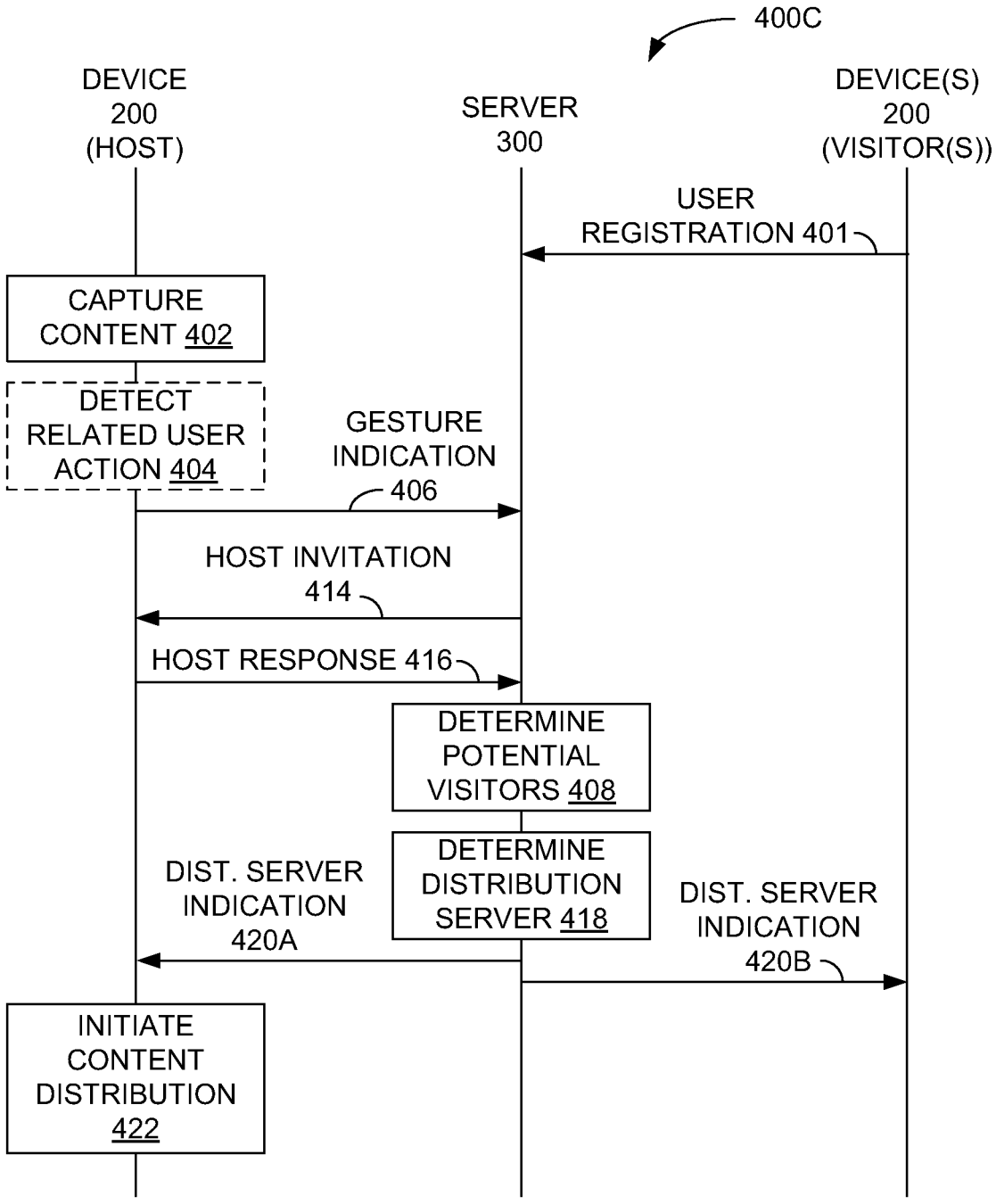
DIST. SERVER INDICATION 420A
DIST. SERVER INDICATION 420B
INITIATE CONTENT DISTRIBUTION 422

FIG. 4B


400C
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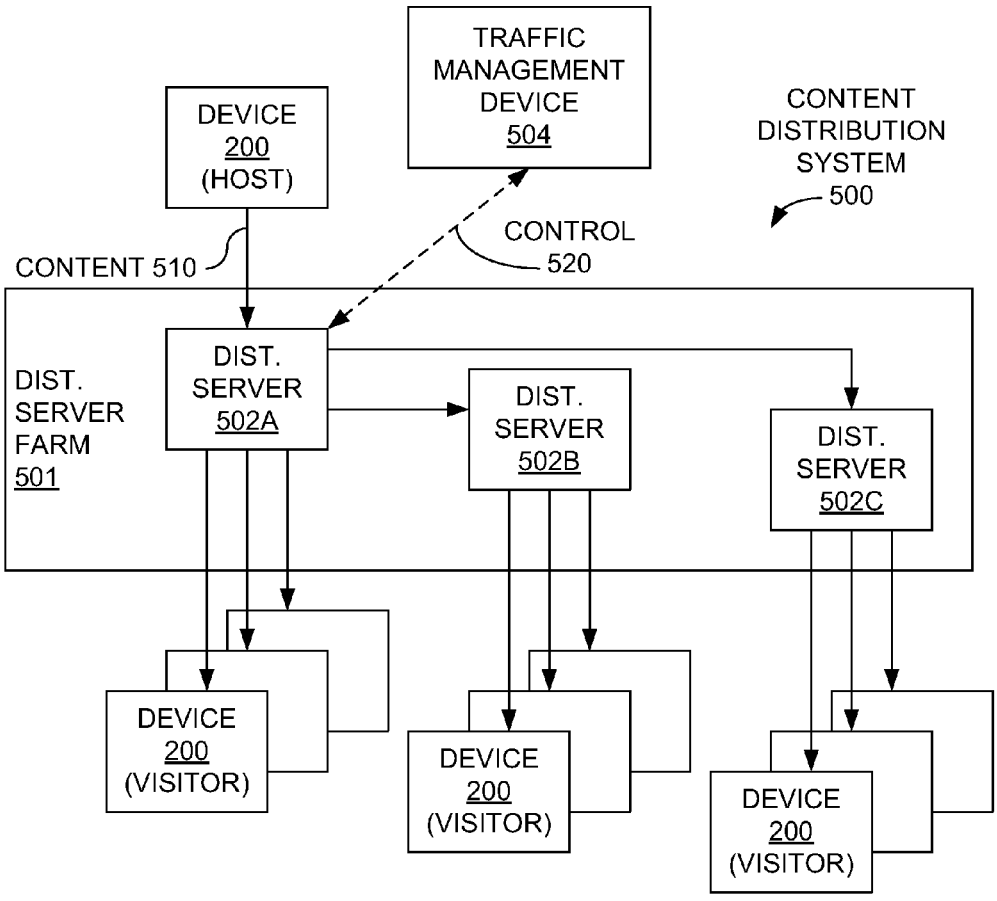
SERVER 300
DEVICE(S) 200 (VISITOR(S))
USER REGISTRATION 401
CAPTURE CONTENT 402
DETECT RELATED USER ACTION 404
GESTURE INDICATION 406
HOST INVITATION 414
HOST RESPONSE 416
DETERMINE POTENTIAL VISITORS 408
DETERMINE DISTRIBUTION SERVER 418
DIST. SERVER INDICATION 420A
DIST. SERVER INDICATION 420B
INITIATE CONTENT DISTRIBUTION 422

FIG. 4C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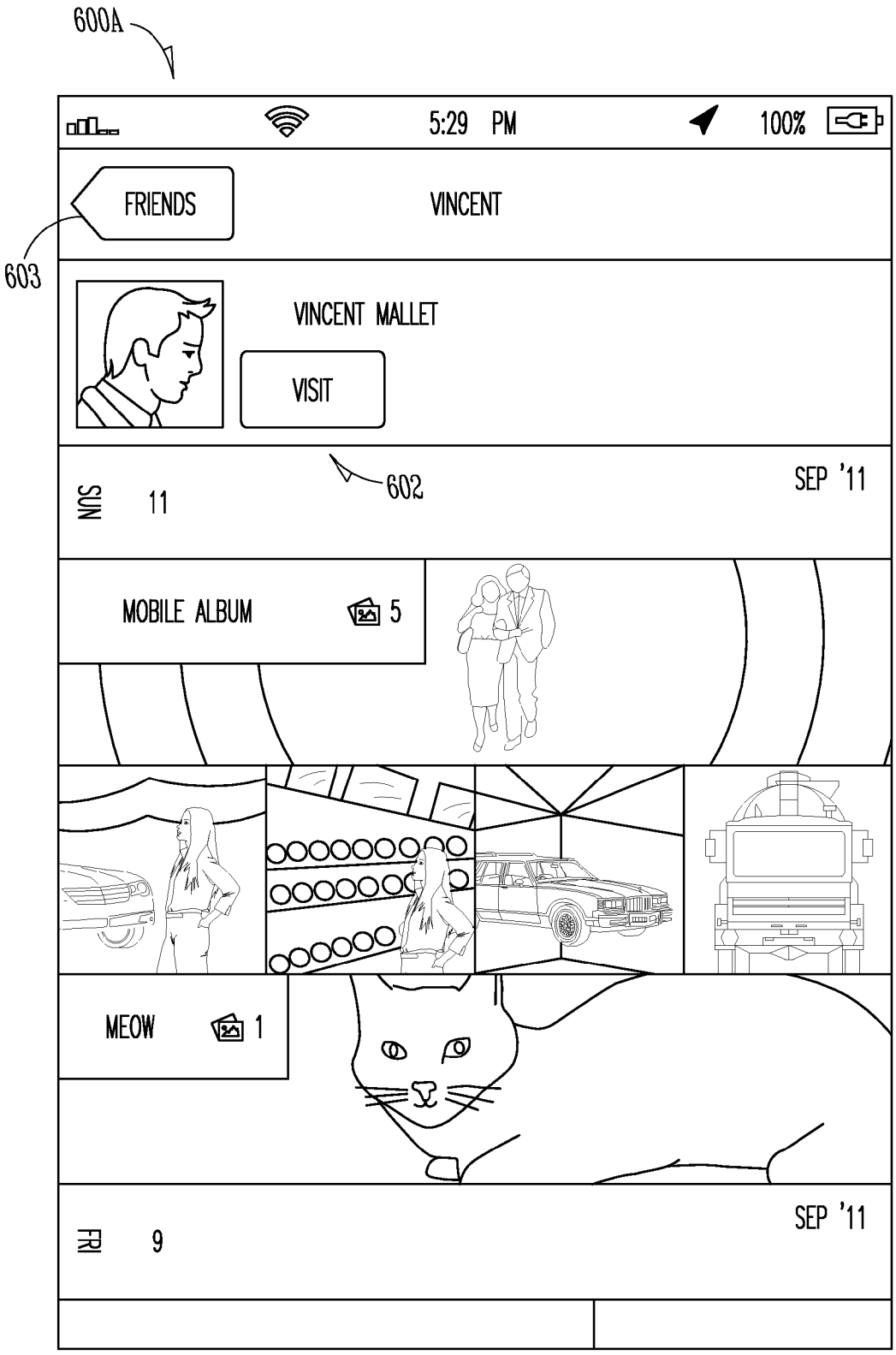
DEVICE 200 (HOST)
CONTENT DISTRIBUTION SYSTEM 500
CONTROL 520
CONTENT 510
DIST. SERVER FARM 501
DIST. SERVER 502A
DIST. SERVER 502B
DIST. SERVER 502C
DEVICE 200 (VISITOR)
DEVICE 200 (VISITOR)
DEVICE 200 (VISITOR)

FIG. 5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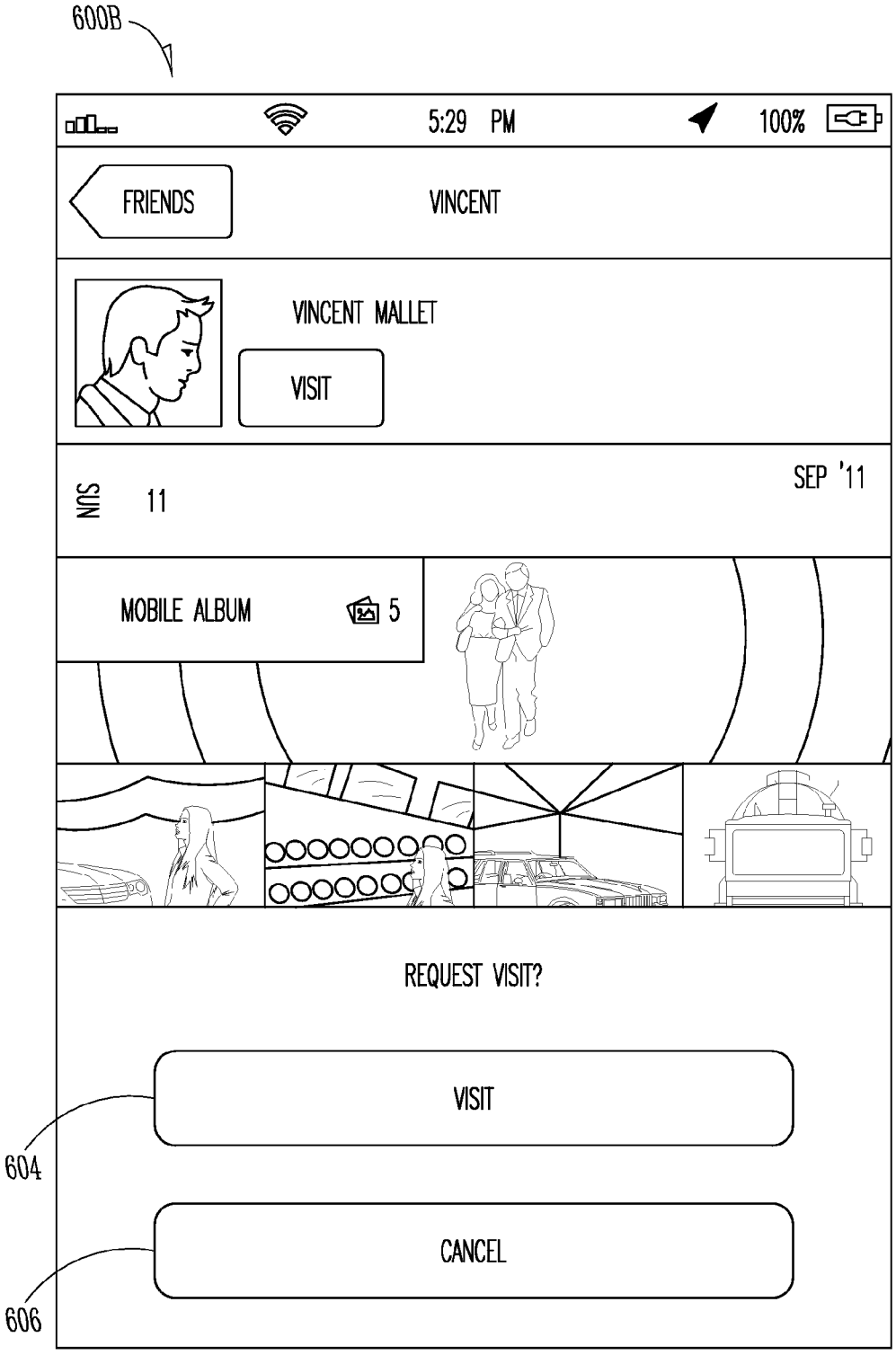
100%
FRIENDS
VINCENT
603
VINCENT MALLET
VISIT
602
SUN 11
SEP '11
MOBILE ALBUM
5
MEOW
1
FRI 9
SEP '11

FIG. 6A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VINCENT
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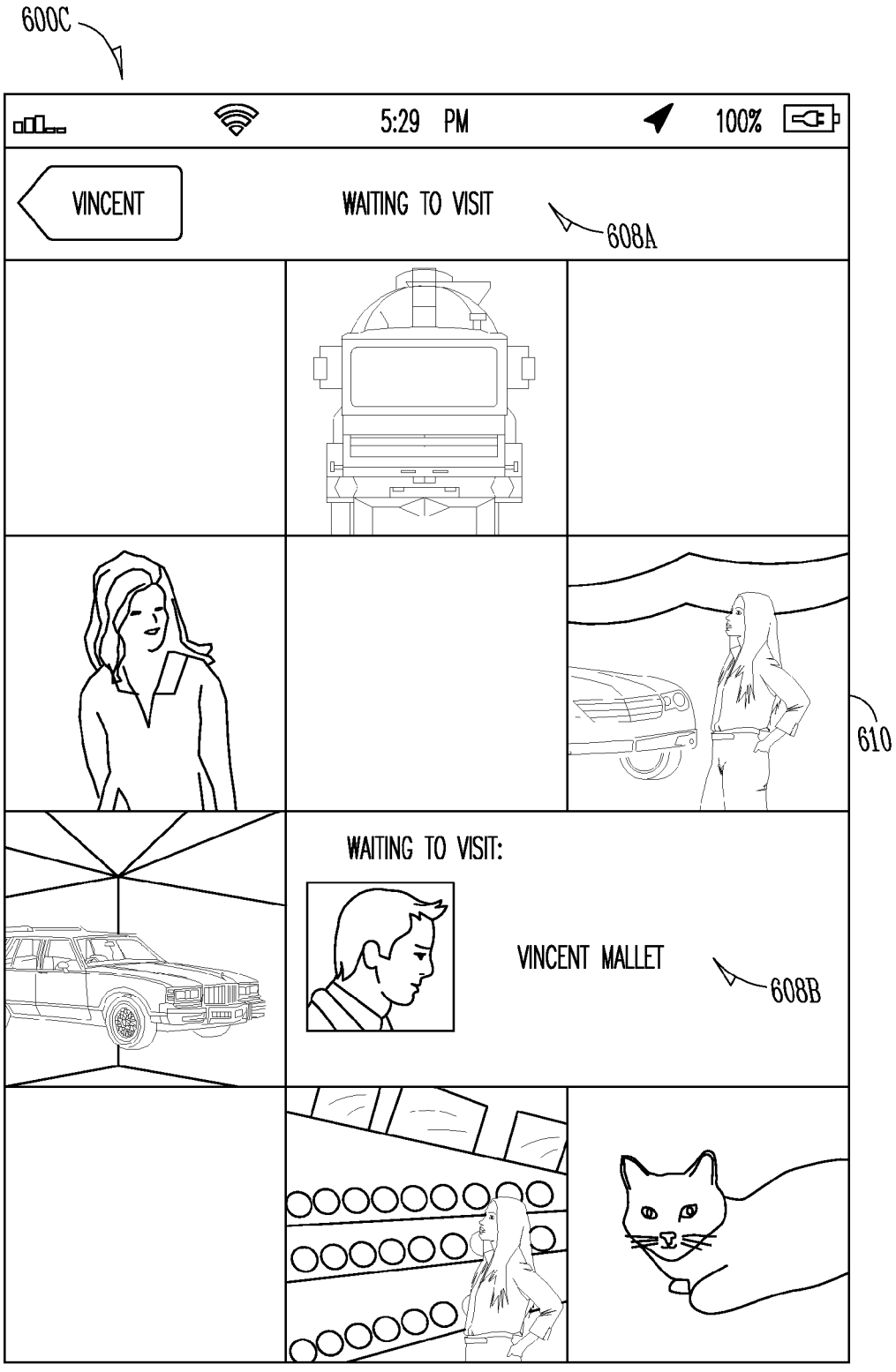
SEP '11
MOBILE ALBUM
5
REQUEST VISIT?
VISIT
CANCEL
604
606

FIG. 6B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VINCENT
WAITING TO VISIT
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610
WAITING TO VISIT:
VINCENT MALLET
608B

FIG. 6C

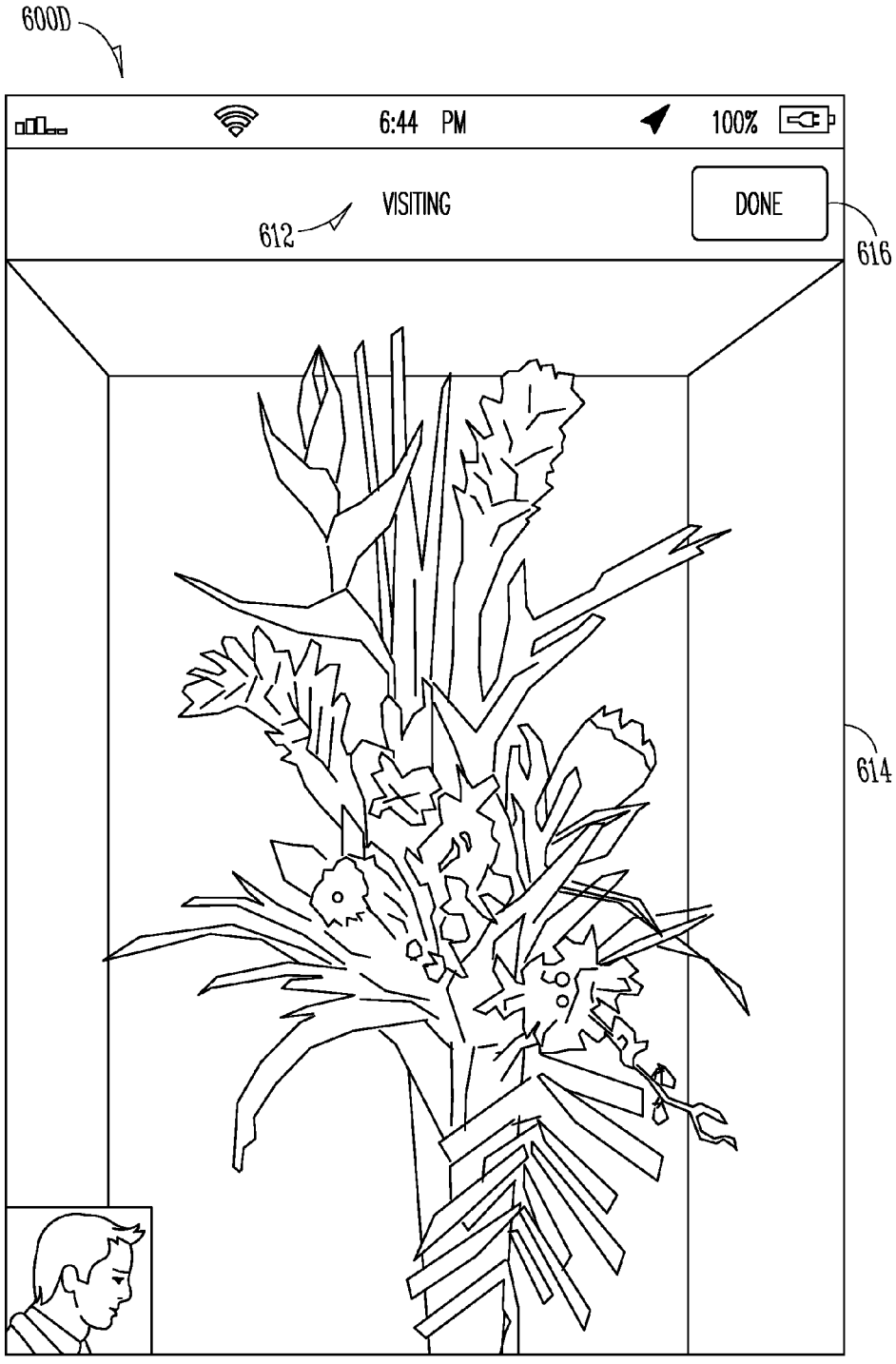
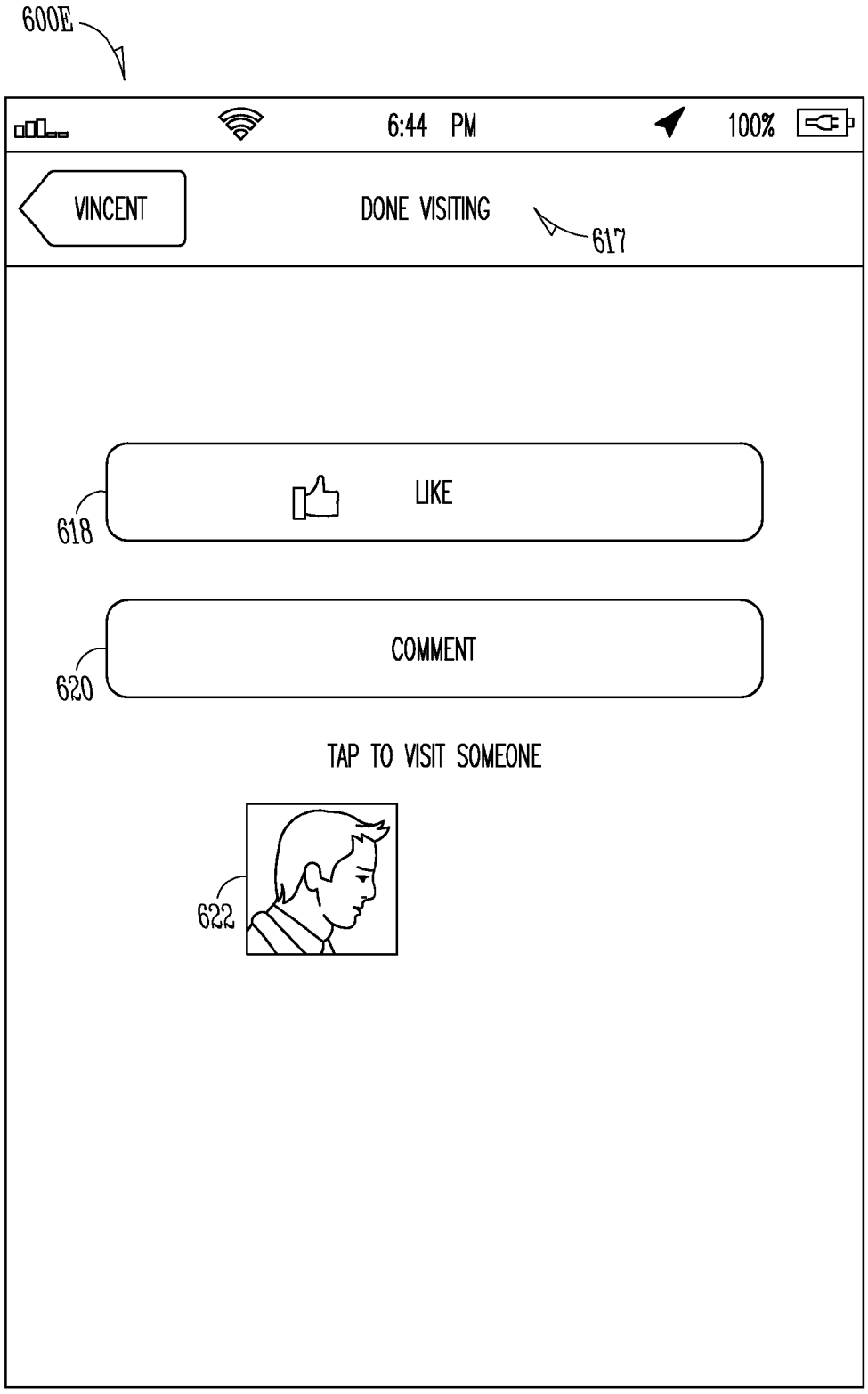


FIG. 6D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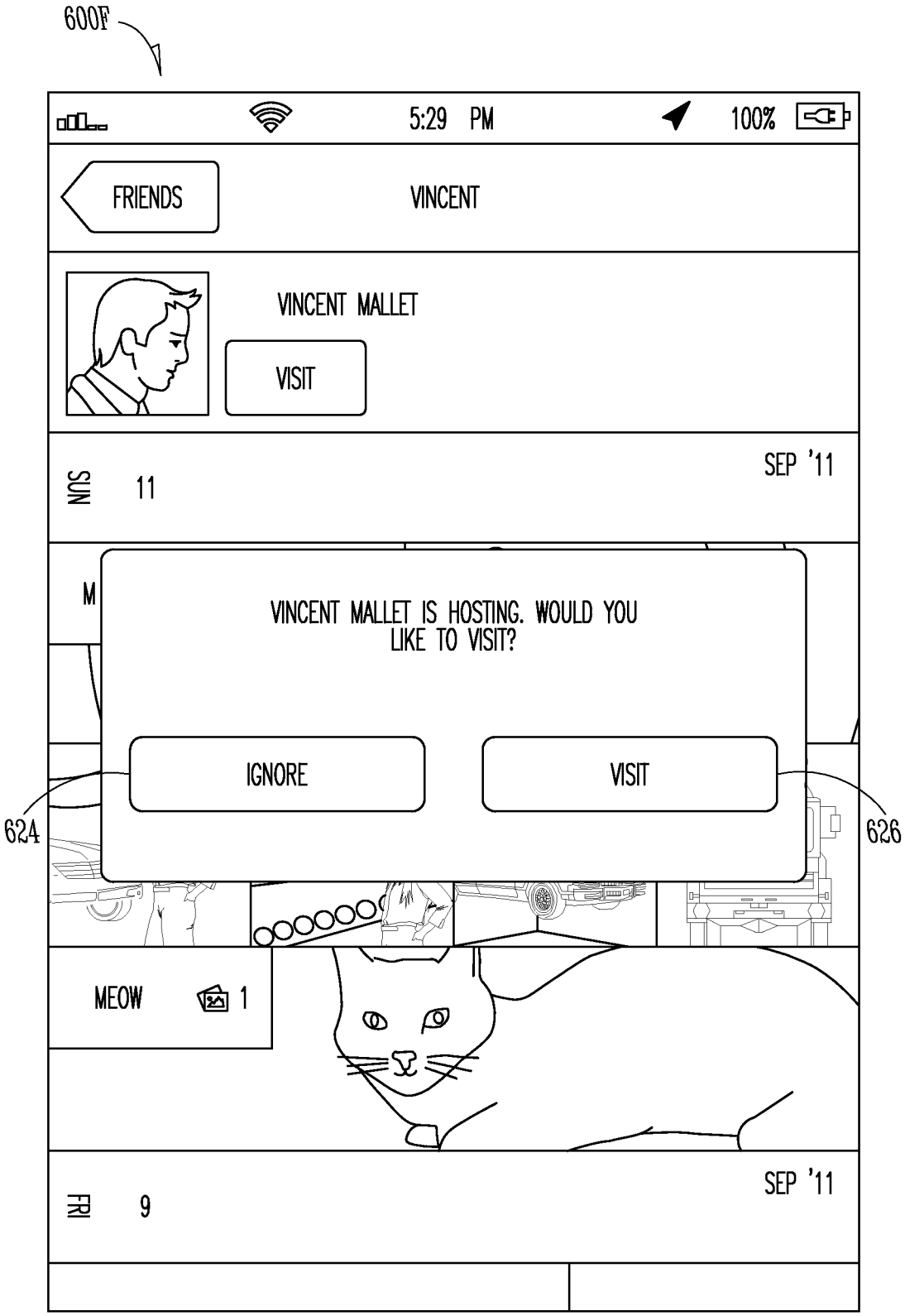
VINCENT
DONE VISITING
617
LIKE
618
COMMENT
620
TAP TO VISIT SOMEONE
622

FIG. 6E


600F
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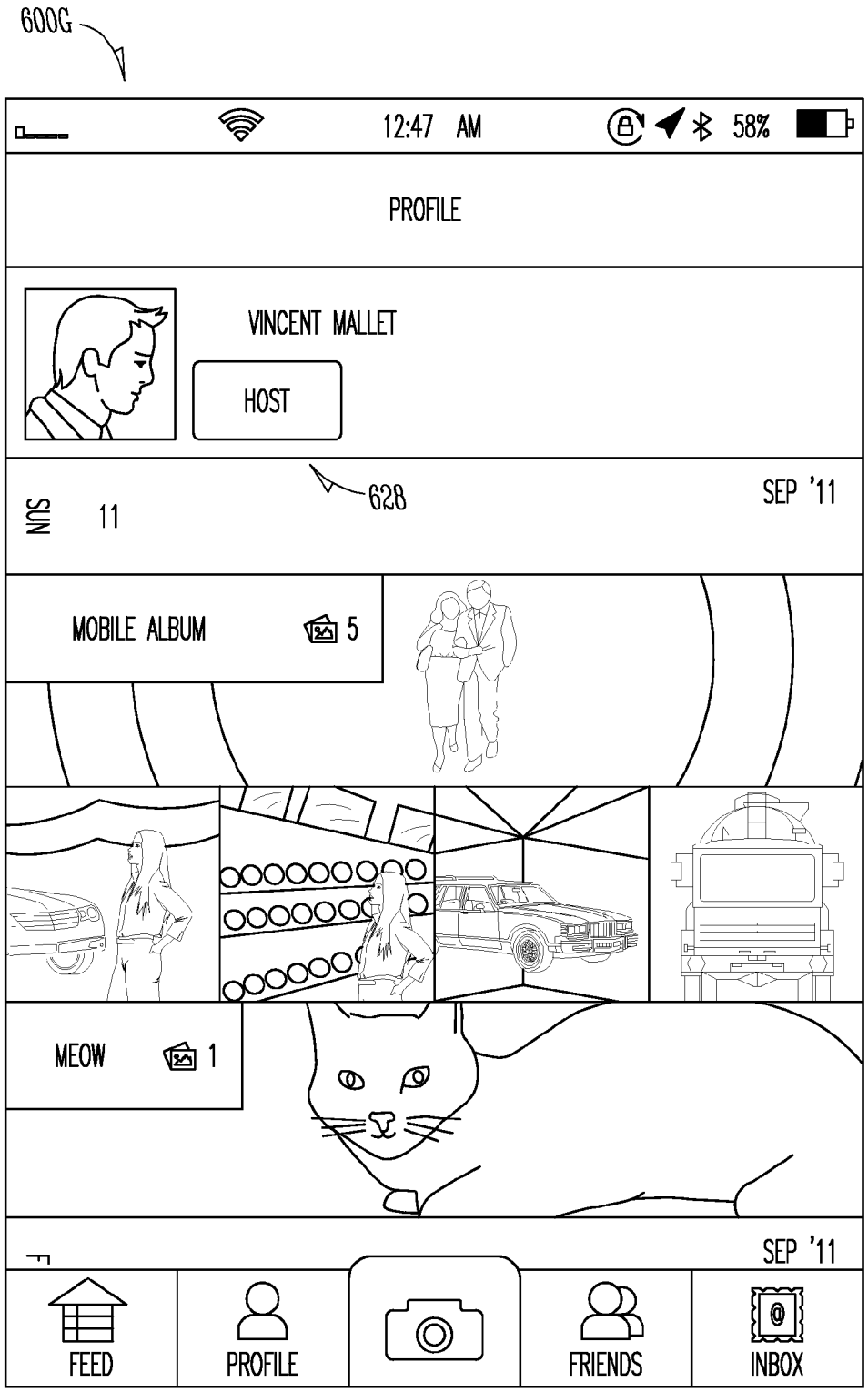
100%
FRIENDS
VINCENT
VINCENT MALLET
VISIT
SUN 11
SEP '11
VINCENT MALLET IS HOSTING. WOULD YOU LIKE TO VISIT?
IGNORE
VISIT
624
626
MEOW 1
FRI 9
SEP '11

FIG. 6F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VINCENT MALLET
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MEOW 1
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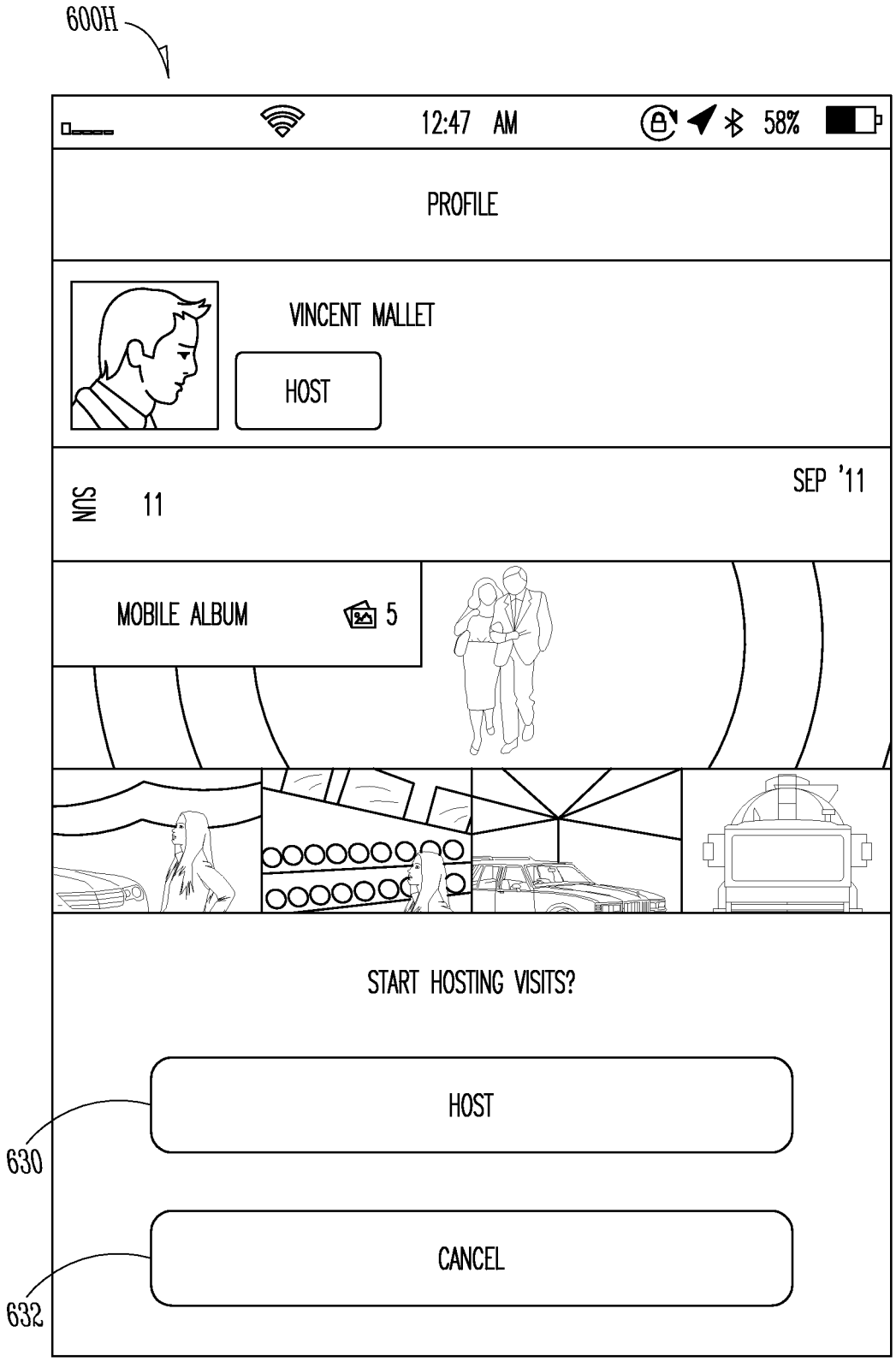
FEED
PROFILE
FRIENDS
INBOX

FIG. 6G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HOST
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5
START HOSTING VISITS?
HOST
CANCEL
630
632

FIG. 6H

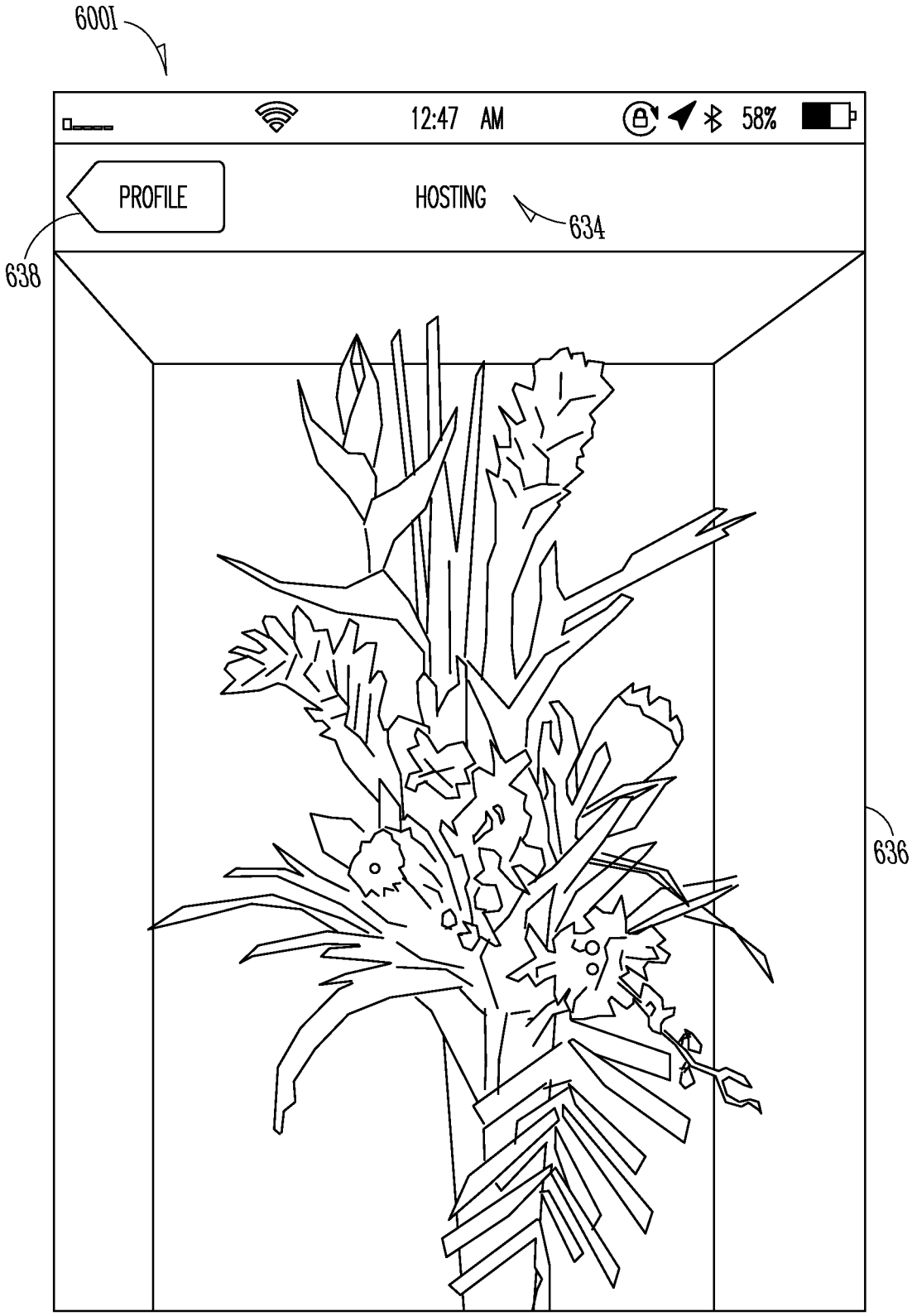

FIG. 6I

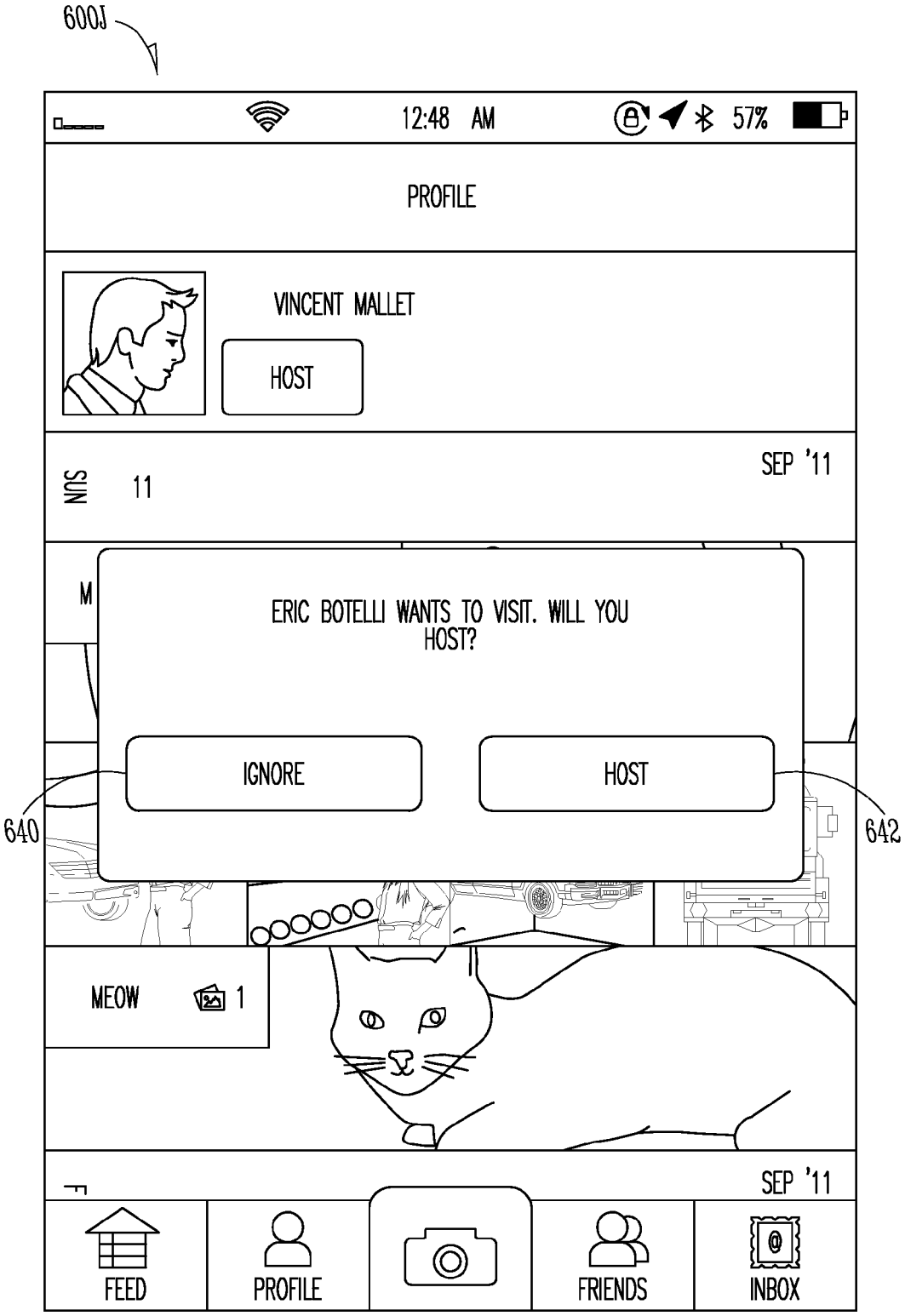
600J
12:48 AM
57%
PROFILE
VINCENT MALLET
HOST
SUN 11
SEP '11
ERIC BOTELLI WANTS TO VISIT. WILL YOU HOST?
IGNORE
HOST
640
642
MEOW 1
SEP '11
FEED
PROFILE
FRIENDS
INBOX

FIG. 6J

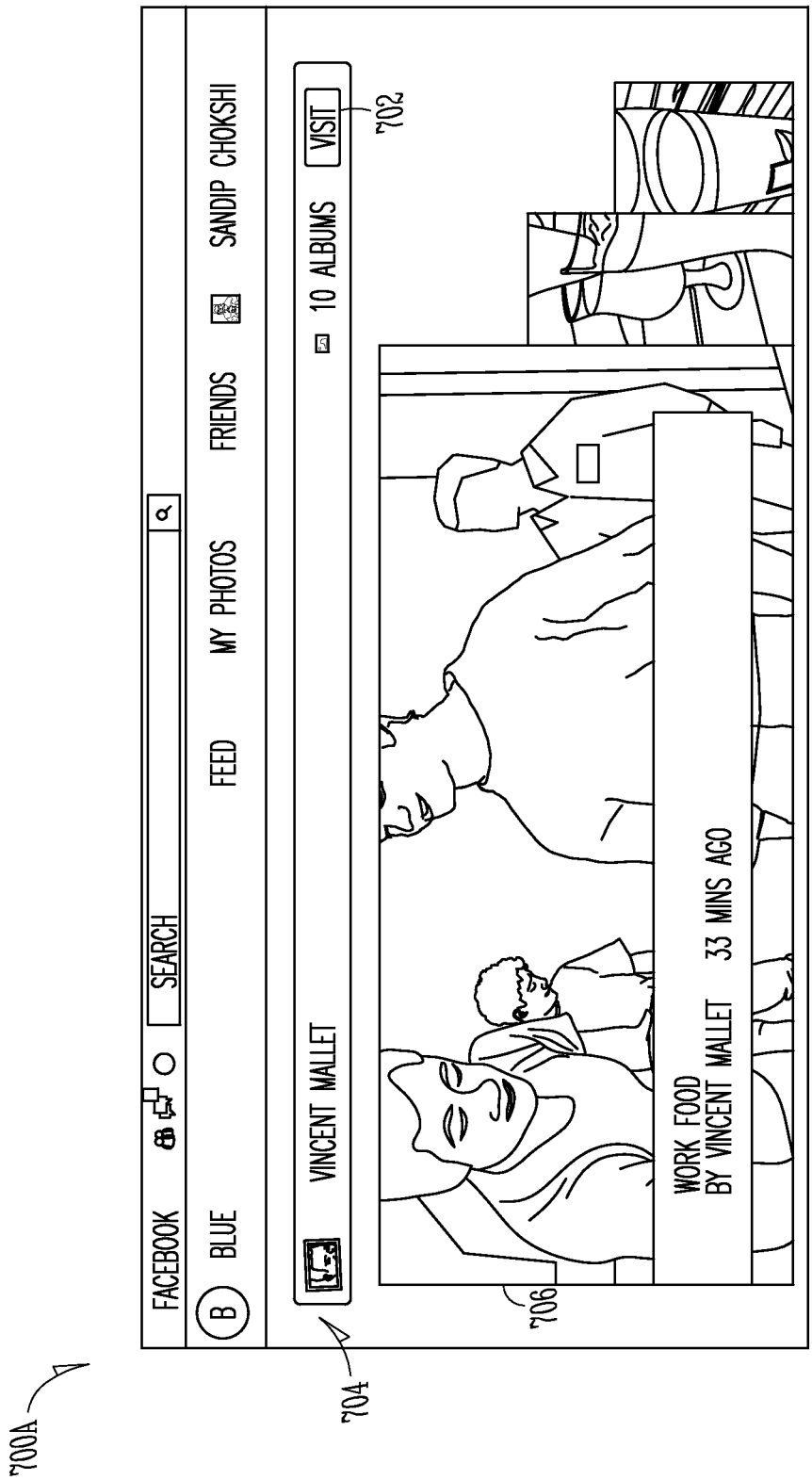
700A
FACEBOOK
SEARCH
B BLUE
FEED
MY PHOTOS
FRIENDS
SANDIP CHOKSHI
VINCENT MALLET
10 ALBUMS
VISIT
702
704
706
WORK FOOD
BY VINCENT MALLET 33 MINS AGO

FIG. 7A

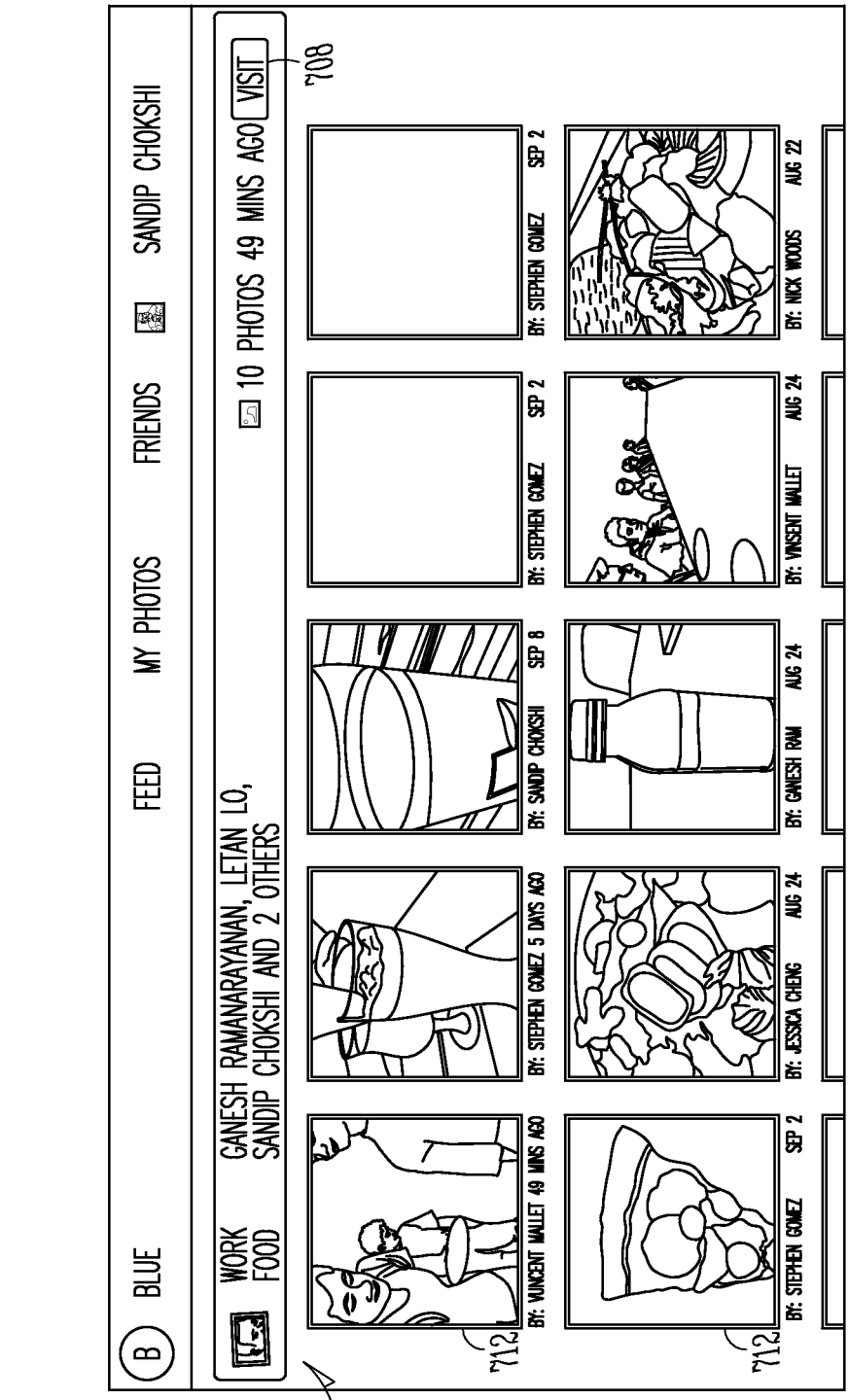
700B
B BLUE
FEED
MY PHOTOS
FRIENDS
SANDIP CHOKSHI
WORK
FOOD
GANESH RAMANARAYANAN, LETAN LO,
SANDIP CHOKSHI AND 2 OTHERS
10 PHOTOS 49 MINS AGO
VISIT
708
710
712
BY: VUNCENT MALLET 49 MINS AGO
BY: STEPHEN GOMEZ 5 DAYS AGO
BY: SANDIP CHOKSHI SEP 8
BY: STEPHEN GOMEZ SEP 2
BY: STEPHEN GOMEZ SEP 2
BY: JESSICA CHENG AUG 24
BY: GANESH RAM AUG 24
BY: VANSENT MALLET AUG 24
BY: NICK WOODS AUG 22

FIG. 7B

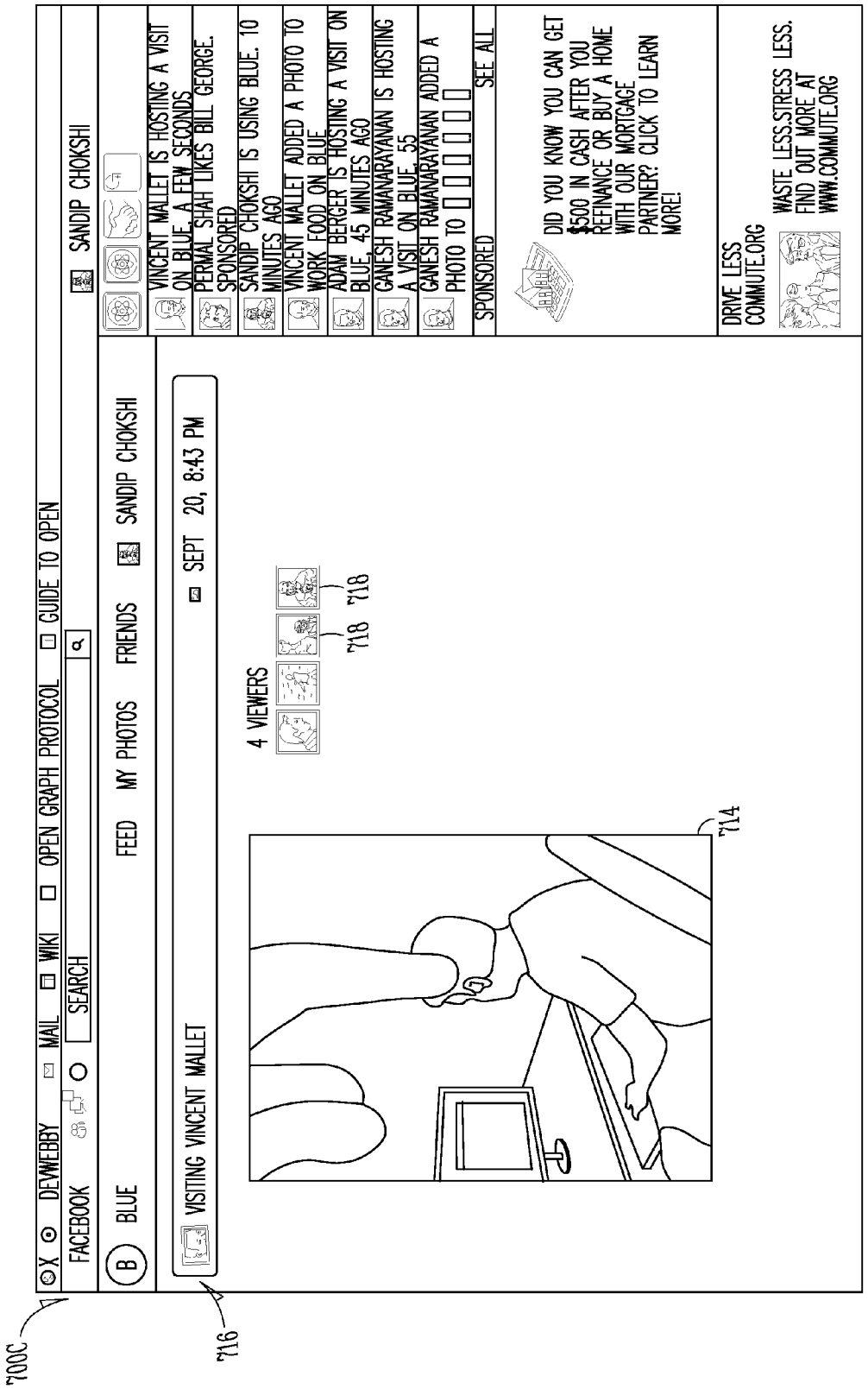
700C
716
714
718
718
718
4 VIEWERS
SEPT 20, 8:43 PM
VISITING VINCENT MALLET
BLUE
FEED
MY PHOTOS
FRIENDS
SANDIP CHOKSHI
FACEBOOK
SEARCH
SANDIP CHOKSHI
VINCENT MALLET IS HOSTING A VISIT ON BLUE. A FEW SECONDS
PERMAL SHAH LIKES BILL GEORGE. SPONSORED
SANDIP CHOKSHI IS USING BLUE. 10 MINUTES AGO
VINCENT MALLET ADDED A PHOTO TO WORK FOOD ON BLUE
ADAM BERGER IS HOSTING A VISIT ON BLUE. 45 MINUTES AGO
GANESH RAMANARAYANAN IS HOSTING A VISIT ON BLUE. 55
GANESH RAMANARAYANAN ADDED A PHOTO TO
SPONSORED
SEE ALL
DID YOU KNOW YOU CAN GET $500 IN CASH AFTER YOU REFINANCE OR BUY A HOME WITH OUR MORTGAGE PARTNER? CLICK TO LEARN MORE!
DRIVE LESS COMMUTE.ORG
WASTE LESS.STRESS LESS. FIND OUT MORE AT WWW.COMMUTE.ORG

FIG. 7C

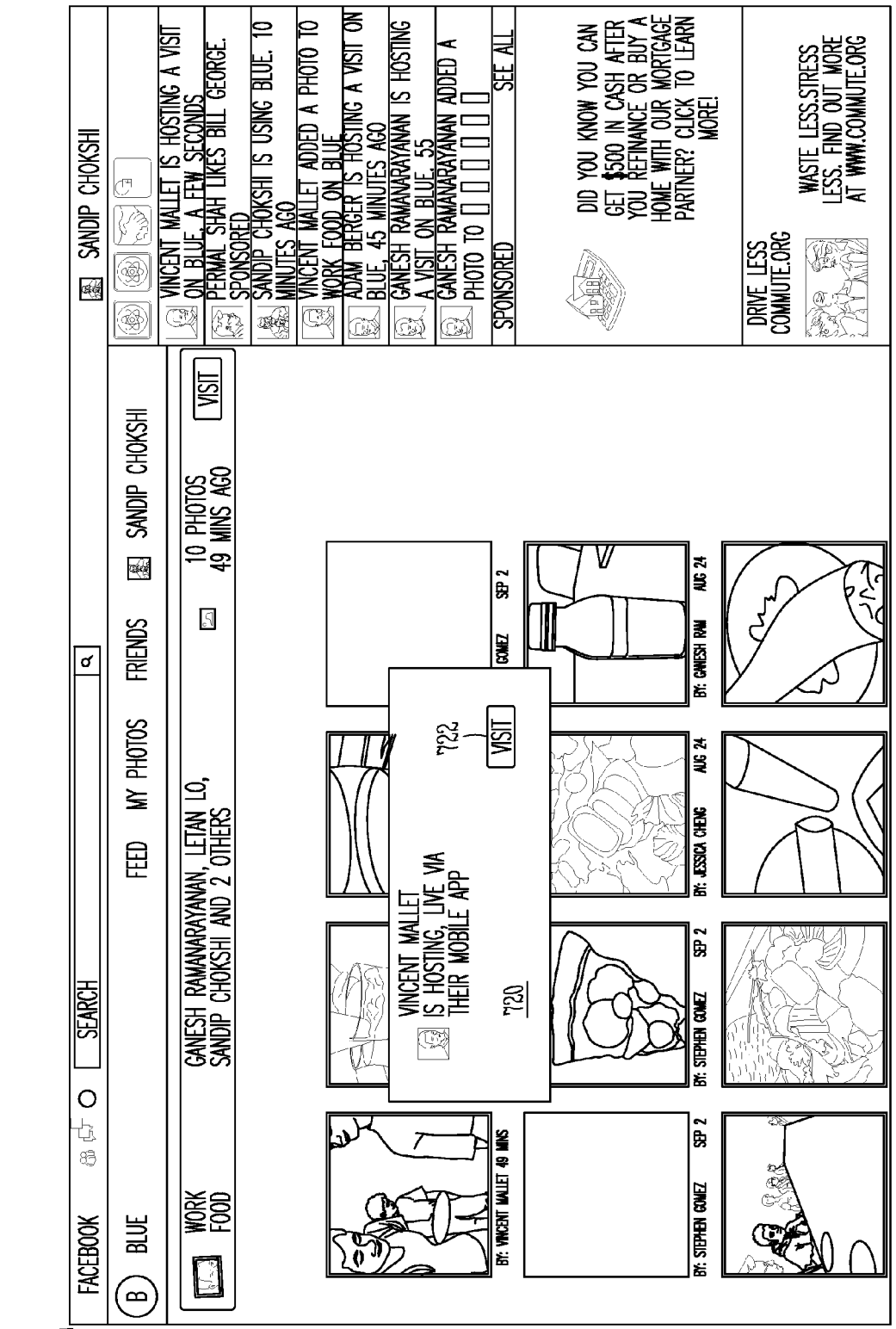
700D
FACEBOOK
SEARCH
SANDIP CHOKSHI
BLUE
FEED
MY PHOTOS
FRIENDS
SANDIP CHOKSHI
WORK
FOOD
GANESH RAMANARAYANAN, LETAN LO, SANDIP CHOKSHI AND 2 OTHERS
10 PHOTOS
49 MINS AGO
VISIT
VINCENT MALLET IS HOSTING, LIVE VIA THEIR MOBILE APP
720
722
VISIT
BY: VINCENT MALLET 49 MINS
BY: STEPHEN GOMEZ SEP 2
BY: STEPHEN GOMEZ SEP 2
BY: JESSICA CHENG AUG 24
BY: GANESH RAM AUG 24
VINCENT MALLET IS HOSTING A VISIT ON BLUE. A FEW SECONDS
PERMAL SHAH LIKES BILL GEORGE.
SPONSORED
SANDIP CHOKSHI IS USING BLUE. 10 MINUTES AGO
VINCENT MALLET ADDED A PHOTO TO WORK FOOD ON BLUE.
ADAM BERGER IS HOSTING A VISIT ON BLUE. 45 MINUTES AGO
GANESH RAMANARAYANAN IS HOSTING A VISIT ON BLUE. 55
GANESH RAMANARAYANAN ADDED A PHOTO TO
SPONSORED
SEE ALL
DID YOU KNOW YOU CAN GET $500 IN CASH AFTER YOU REFINANCE OR BUY A HOME WITH OUR MORTGAGE PARTNER? CLICK TO LEARN MORE!
DRIVE LESS COMMUTE.ORG
WASTE LESS.STRESS LESS. FIND OUT MORE AT WWW.COMMUTE.ORG

FIG. 7D

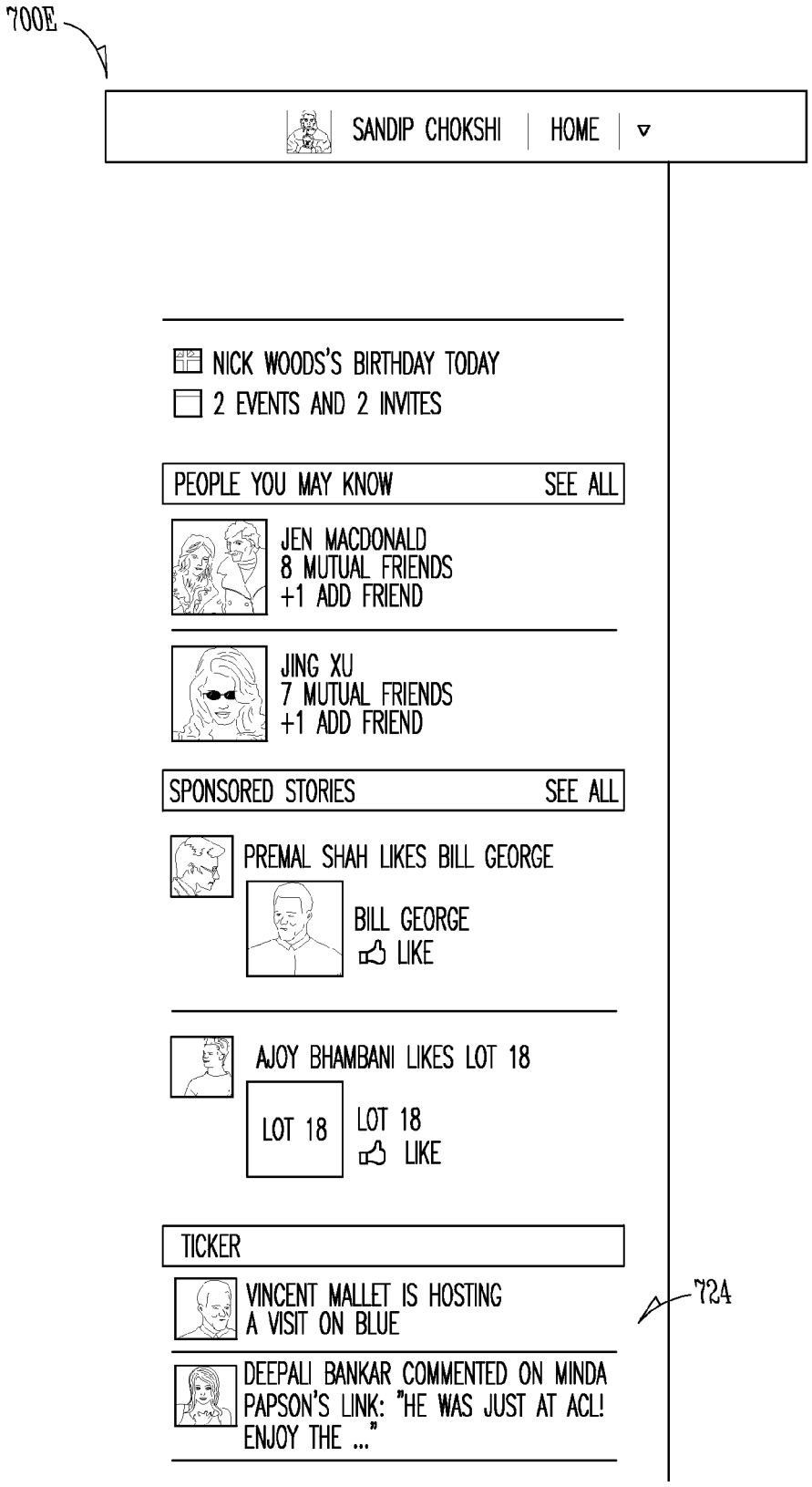
700E
SANDIP CHOKSHI
HOME
NICK WOODS'S BIRTHDAY TODAY
2 EVENTS AND 2 INVITES
PEOPLE YOU MAY KNOW
SEE ALL
JEN MACDONALD
8 MUTUAL FRIENDS
+1 ADD FRIEND
JING XU
7 MUTUAL FRIENDS
+1 ADD FRIEND
SPONSORED STORIES
SEE ALL
PREMAL SHAH LIKES BILL GEORGE
BILL GEORGE
LIKE
AJOY BHAMBANI LIKES LOT 18
LOT 18
LOT 18
LIKE
TICKER
724
VINCENT MALLET IS HOSTING
A VISIT ON BLUE
DEEPALI BANKAR COMMENTED ON MINDA
PAPSON'S LINK: "HE WAS JUST AT ACL!
ENJOY THE ..."

FIG. 7E

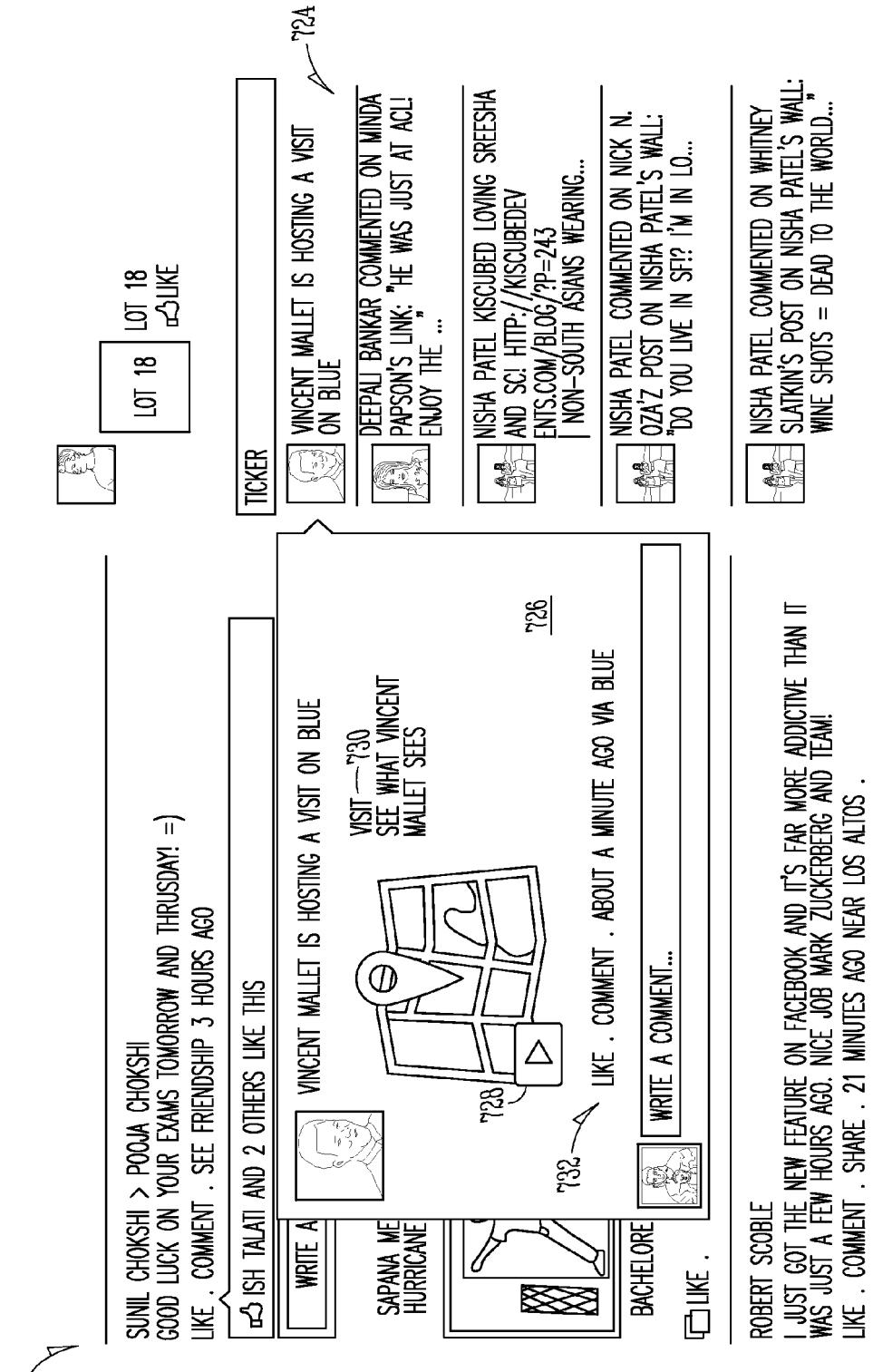
700F
SUNIL CHOKSHI > POOJA CHOKSHI
GOOD LUCK ON YOUR EXAMS TOMORROW AND THRUSDAY! =)
LIKE . COMMENT . SEE FRIENDSHIP 3 HOURS AGO
ISH TALATI AND 2 OTHERS LIKE THIS
WRITE A
SAPANA ME
HURRICANE
BACHELORE
LIKE .
VINCENT MALLET IS HOSTING A VISIT ON BLUE
VISIT
SEE WHAT VINCENT
MALLET SEES
730
738
732
726
LIKE . COMMENT . ABOUT A MINUTE AGO VIA BLUE
WRITE A COMMENT...
ROBERT SCOBLE
I JUST GOT THE NEW FEATURE ON FACEBOOK AND IT'S FAR MORE ADDICTIVE THAN IT
WAS JUST A FEW HOURS AGO. NICE JOB MARK ZUCKERBERG AND TEAM!
LIKE . COMMENT . SHARE . 21 MINUTES AGO NEAR LOS ALTOS .
LOT 18
LOT 18
LIKE
TICKER
724
VINCENT MALLET IS HOSTING A VISIT ON BLUE
DEEPALI BANKAR COMMENTED ON MINDA PAPSON'S LINK: "HE WAS JUST AT ACL! ENJOY THE ..."
NISHA PATEL KISCUBED LOVING SREESHA AND SC! HTTP://KISCUBEDEV ENTS.COM/BLOG/?P=243 | NON-SOUTH ASIANS WEARING...
NISHA PATEL COMMENTED ON NICK N. OZA'Z POST ON NISHA PATEL'S WALL: "DO YOU LIVE IN SF!? I'M IN LO...
NISHA PATEL COMMENTED ON WHITNEY SLATKIN'S POST ON NISHA PATEL'S WALL: WINE SHOTS = DEAD TO THE WORLD..."

FIG. 7F

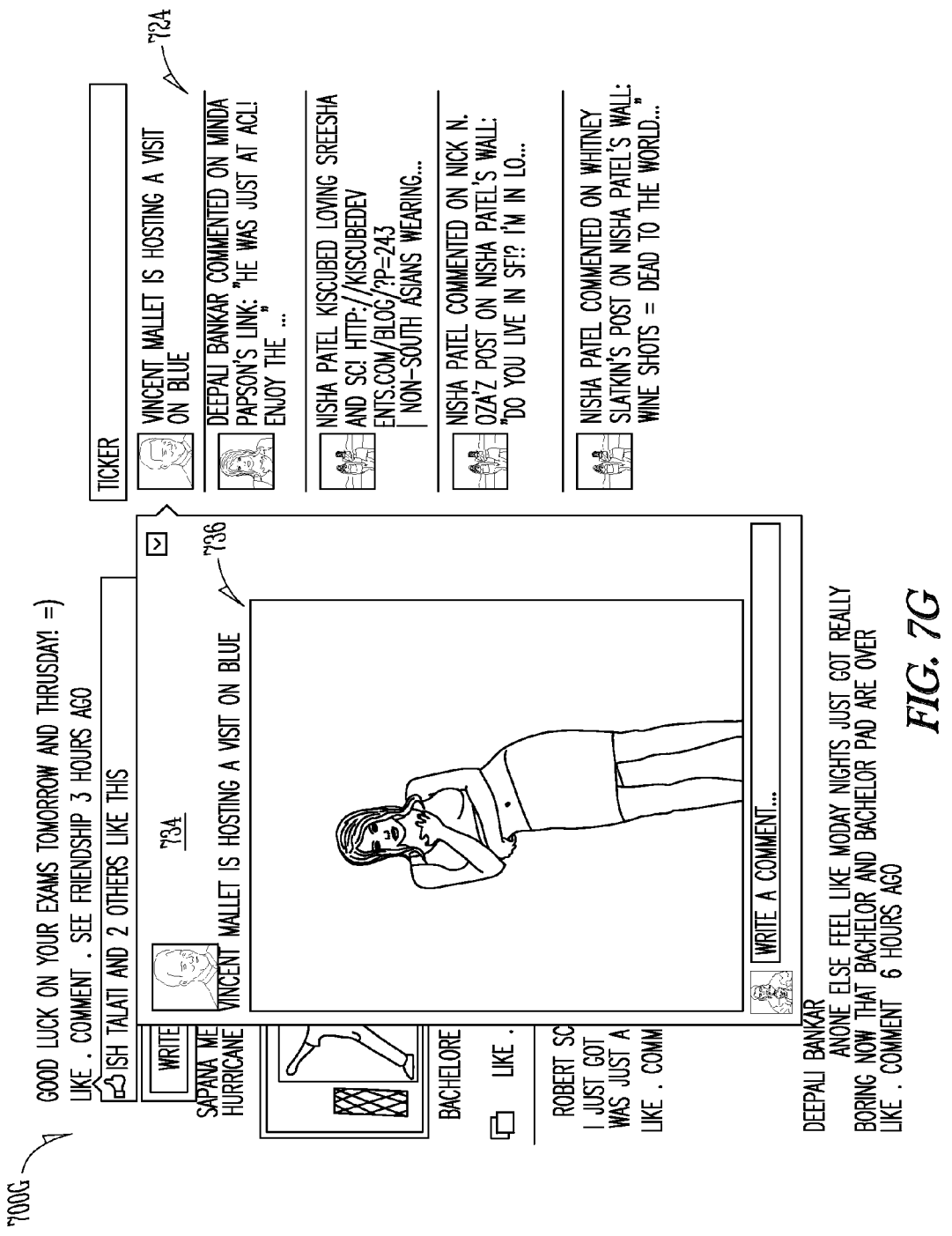
700G
GOOD LUCK ON YOUR EXAMS TOMORROW AND THRUSDAY! =)
LIKE . COMMENT . SEE FRIENDSHIP 3 HOURS AGO
ISH TALATI AND 2 OTHERS LIKE THIS
WRITE
SAPANA ME HURRICANE
BACHELORE
LIKE .
ROBERT SC I JUST GOT WAS JUST A LIKE . COMM
734
VINCENT MALLET IS HOSTING A VISIT ON BLUE
736
WRITE A COMMENT...
DEEPALI BANKAR ANONE ELSE FEEL LIKE MODAY NIGHTS JUST GOT REALLY BORING NOW THAT BACHELOR AND BACHELOR PAD ARE OVER
LIKE . COMMENT 6 HOURS AGO
TICKER
724
VINCENT MALLET IS HOSTING A VISIT ON BLUE
DEEPALI BANKAR COMMENTED ON MINDA PAPSON'S LINK: "HE WAS JUST AT ACL! ENJOY THE ..."
NISHA PATEL KISCUBED LOVING SREESHA AND SC! HTTP://KISCUBEDEV ENTS.COM/BLOG/?P=243 | NON-SOUTH ASIANS WEARING...
NISHA PATEL COMMENTED ON NICK N. OZA'Z POST ON NISHA PATEL'S WALL: "DO YOU LIVE IN SF!? I'M IN LO...
NISHA PATEL COMMENTED ON WHITNEY SLATKIN'S POST ON NISHA PATEL'S WALL: WINE SHOTS = DEAD TO THE WORLD..."

FIG. 7G

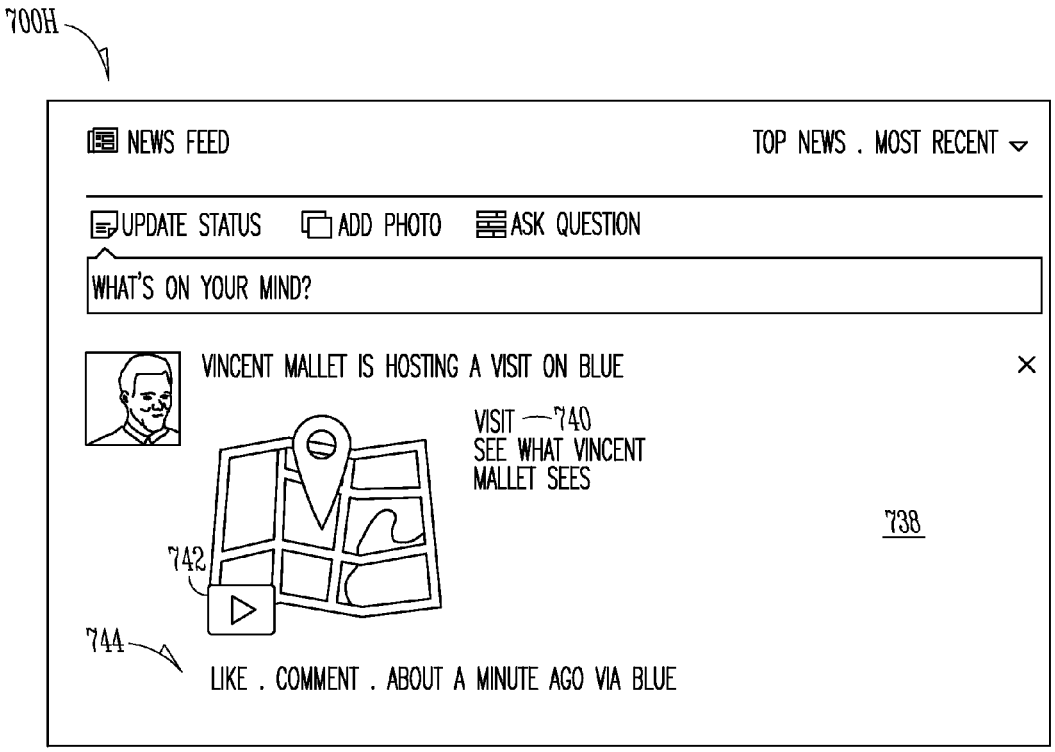
700H
NEWS FEED
TOP NEWS . MOST RECENT
UPDATE STATUS
ADD PHOTO
ASK QUESTION
WHAT'S ON YOUR MIND?
VINCENT MALLET IS HOSTING A VISIT ON BLUE
VISIT
SEE WHAT VINCENT MALLET SEES
740
738
742
744
LIKE . COMMENT . ABOUT A MINUTE AGO VIA BLUE

FIG. 7H

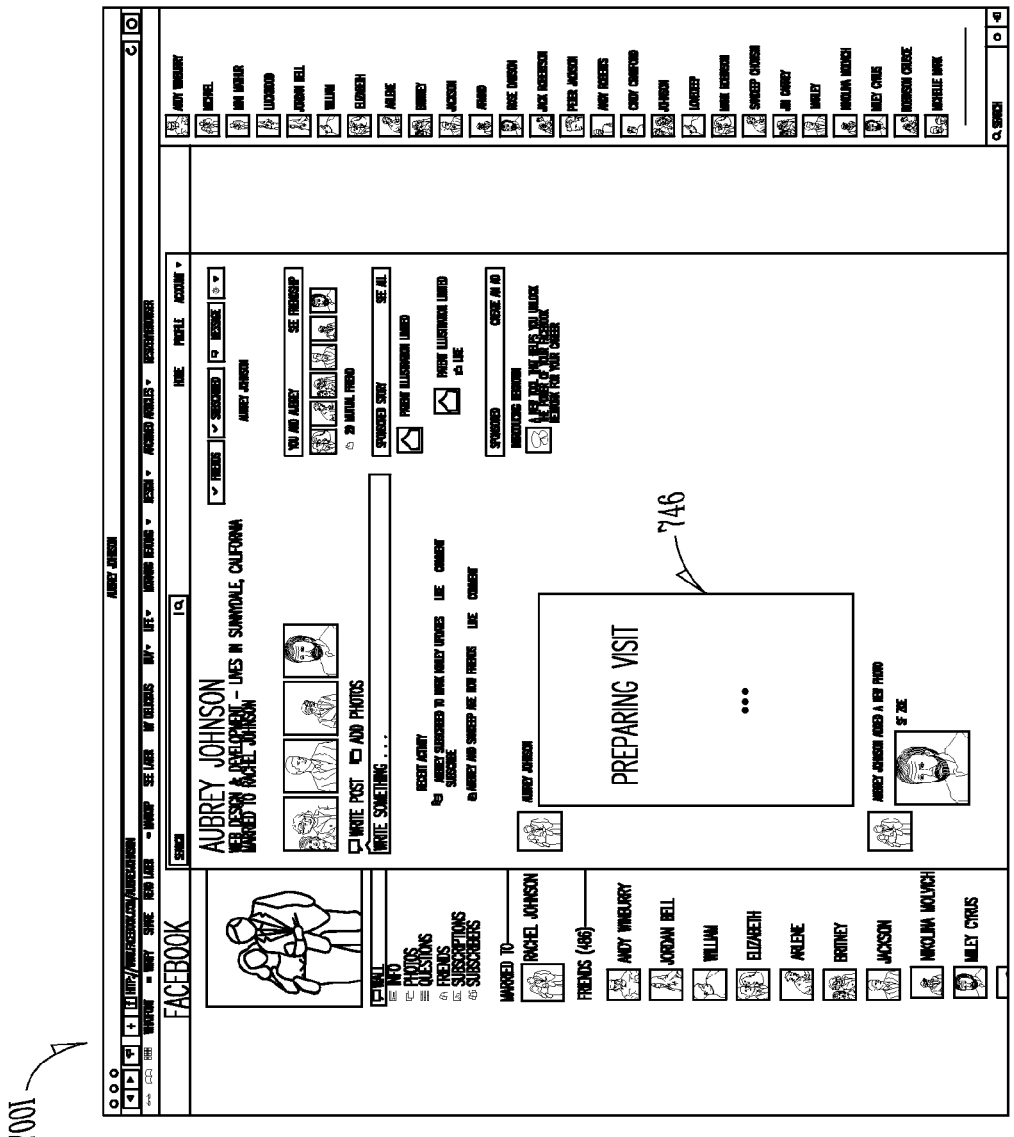

FIG. 71

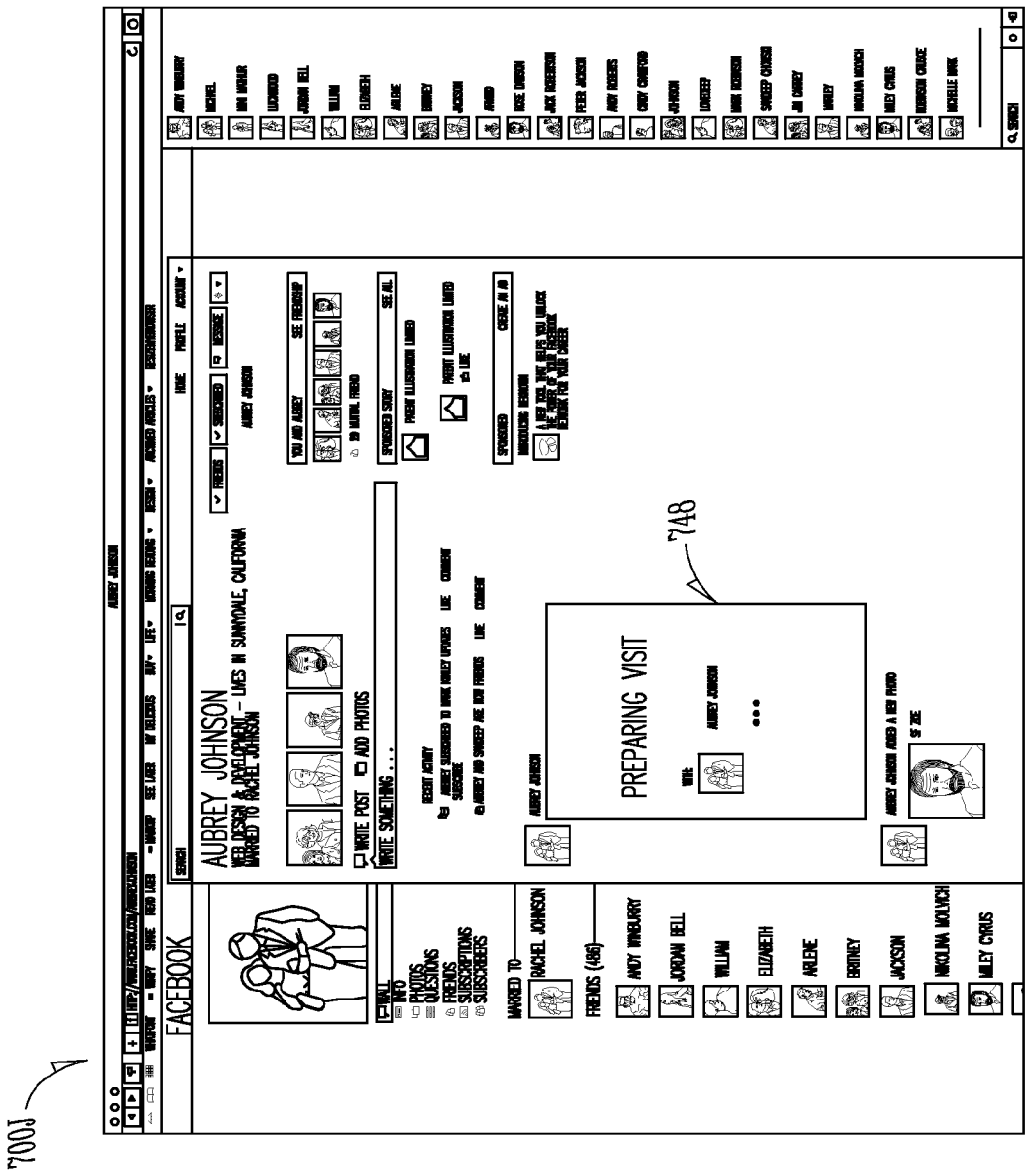

FIG. 7J

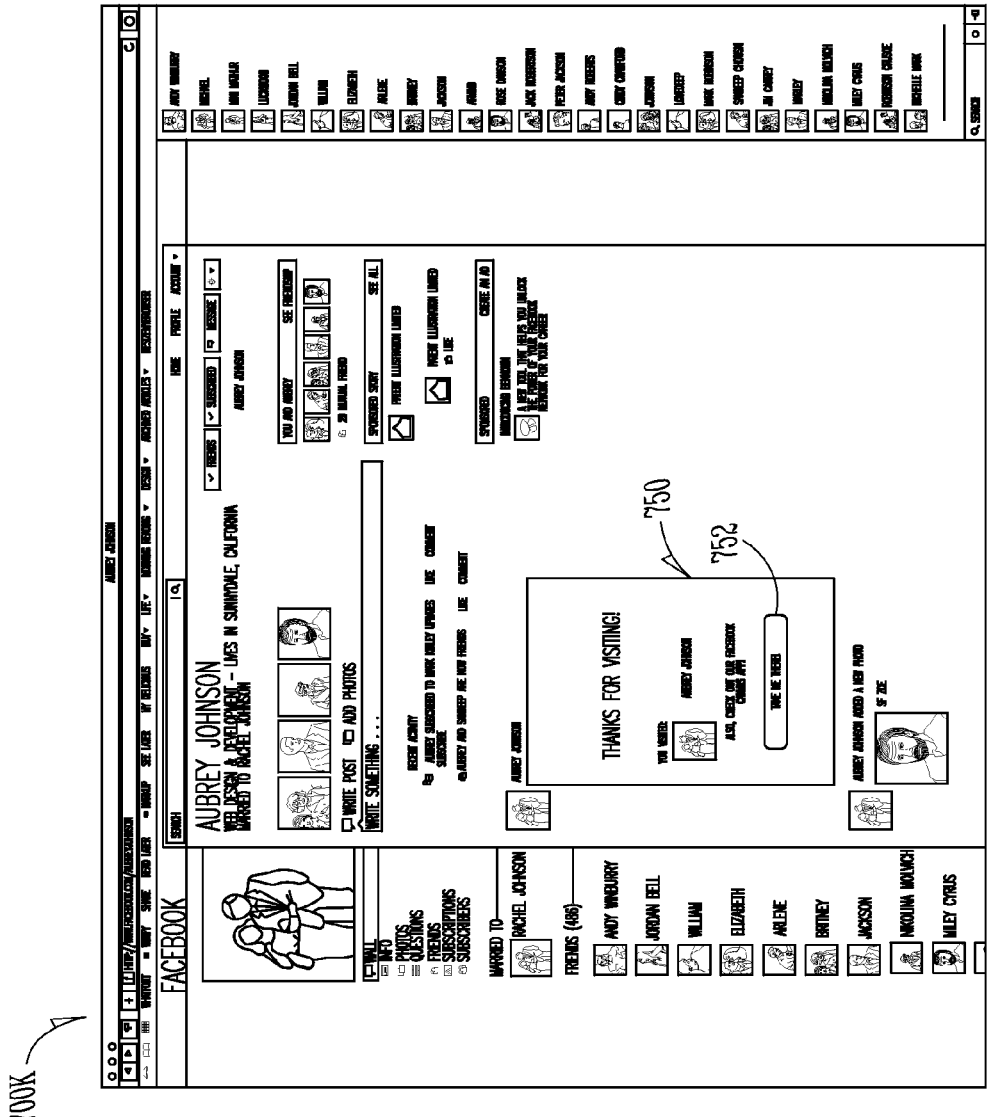
700K
FACEBOOK
AUBREY JOHNSON
WEB DESIGN & DEVELOPMENT – LIVES IN SUNNYDALE, CALIFORNIA
MARRIED TO RACHEL JOHNSON
WRITE POST
ADD PHOTOS
WRITE SOMETHING...
WALL
INFO
PHOTOS
QUESTIONS
FRIENDS
SUBSCRIPTIONS
SUBSCRIBERS
MARRIED TO
RACHEL JOHNSON
FRIENDS (486)
ANDY WINDSURRY
JORDAN BELL
WILLIAM
ELIZABETH
ARLENE
BRITNEY
JACKSON
NIKOLINA MOLNICH
MILEY CYRUS
THANKS FOR VISITING!
750
752

FIG. 7K

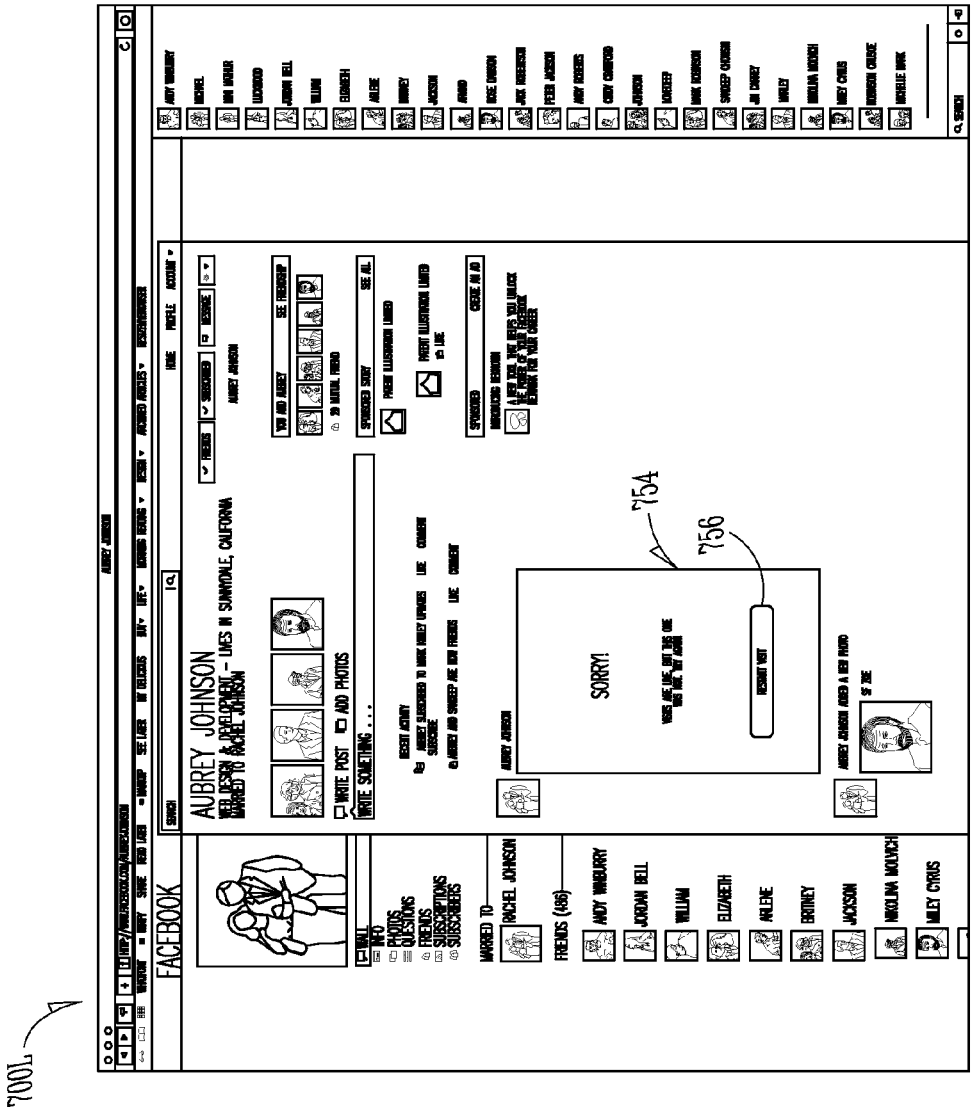

FIG. 7L

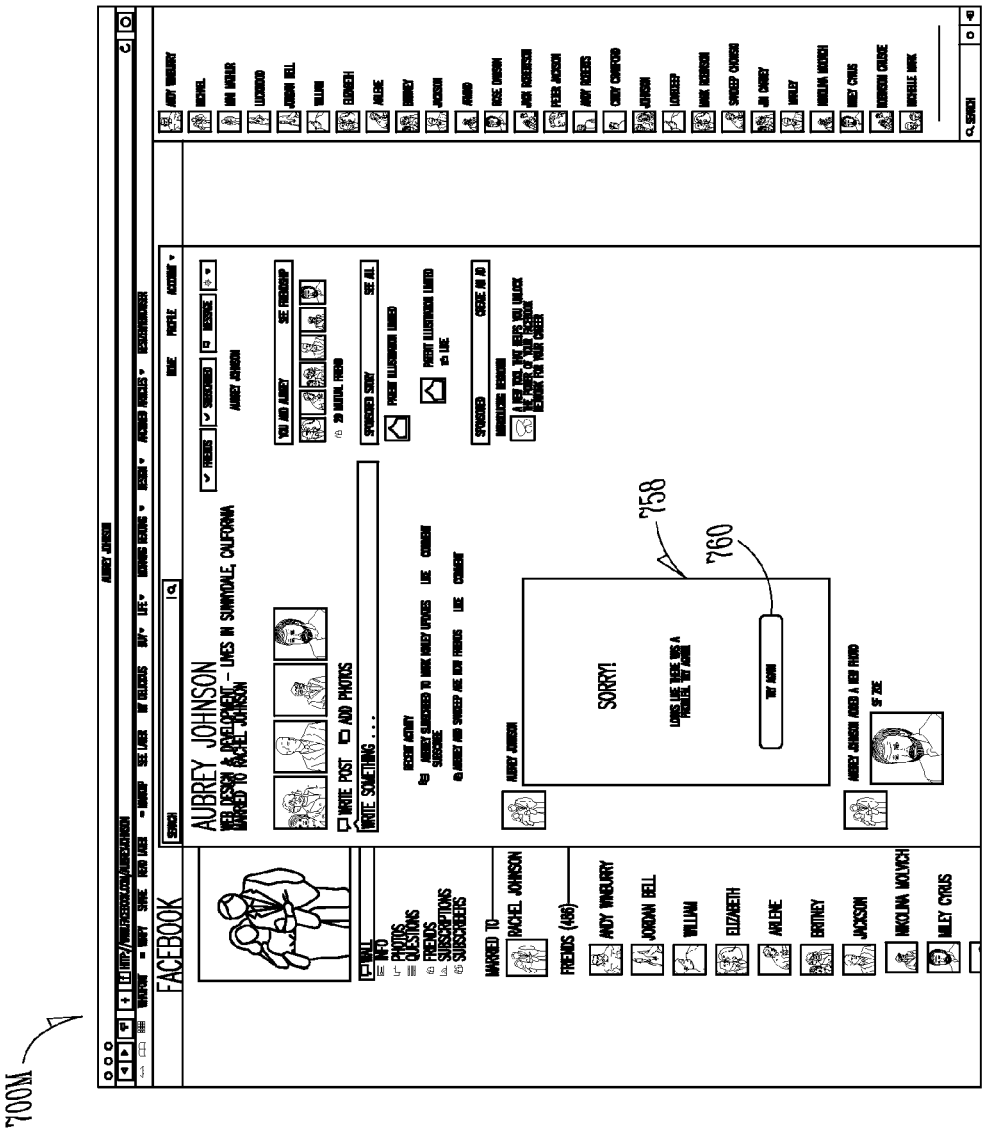

FIG. 7M

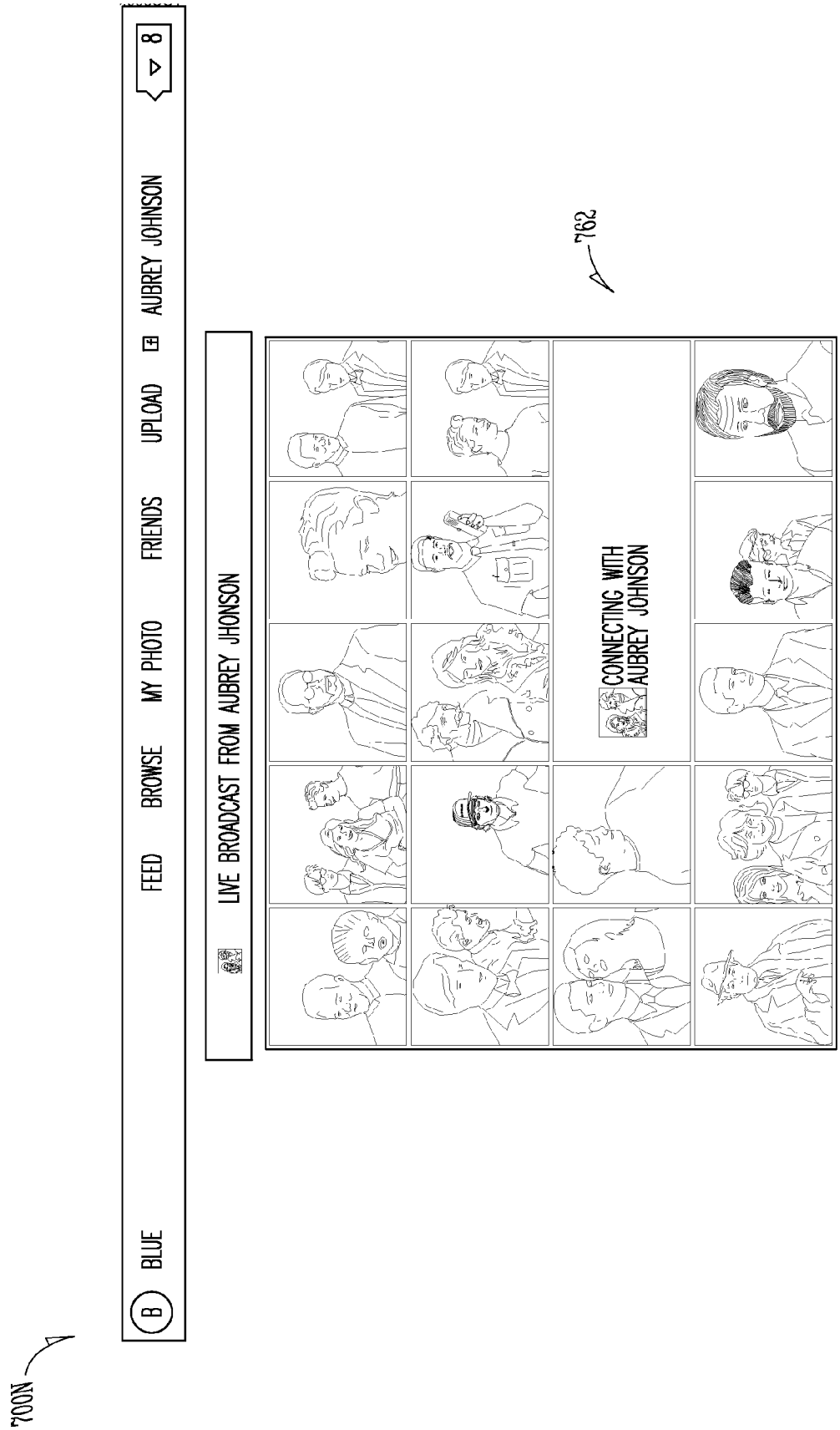
700N
B BLUE
FEED BROWSE MY PHOTO FRIENDS UPLOAD AUBREY JOHNSON
8
LIVE BROADCAST FROM AUBREY JHONSON
762
CONNECTING WITH AUBREY JOHNSON

FIG. 7N

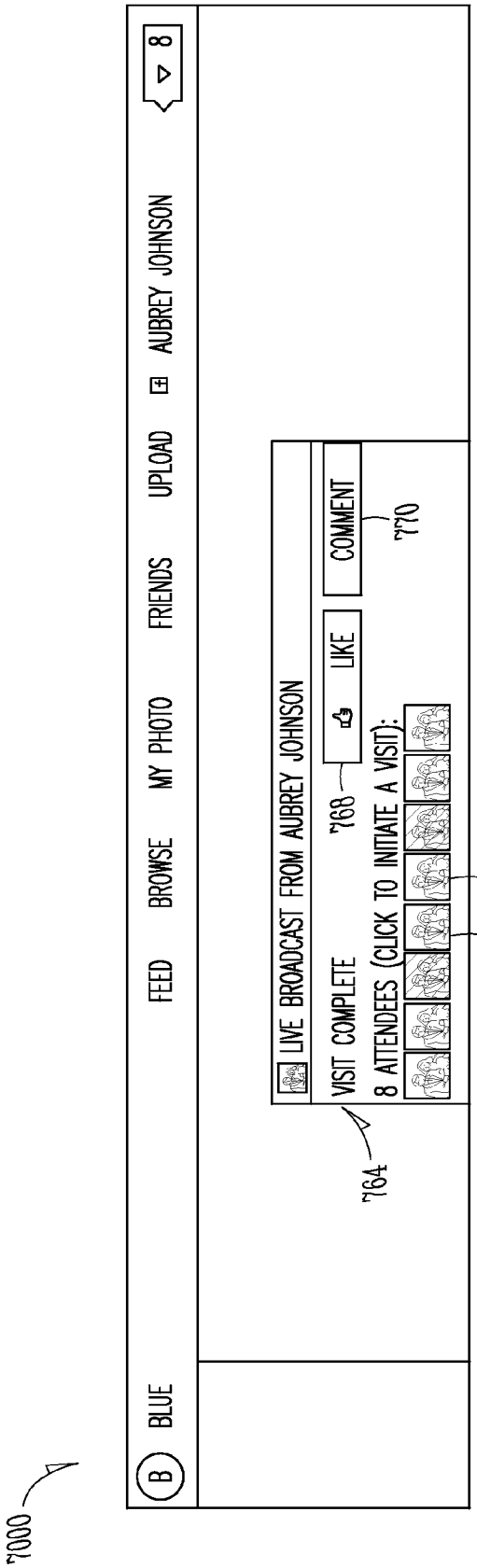
7000
B BLUE
FEED BROWSE MY PHOTO FRIENDS UPLOAD AUBREY JOHNSON
8
LIVE BROADCAST FROM AUBREY JOHNSON
VISIT COMPLETE
8 ATTENDEES (CLICK TO INITIATE A VISIT):
LIKE
COMMENT
7764
7768
7770
7766
7766

FIG. 7O

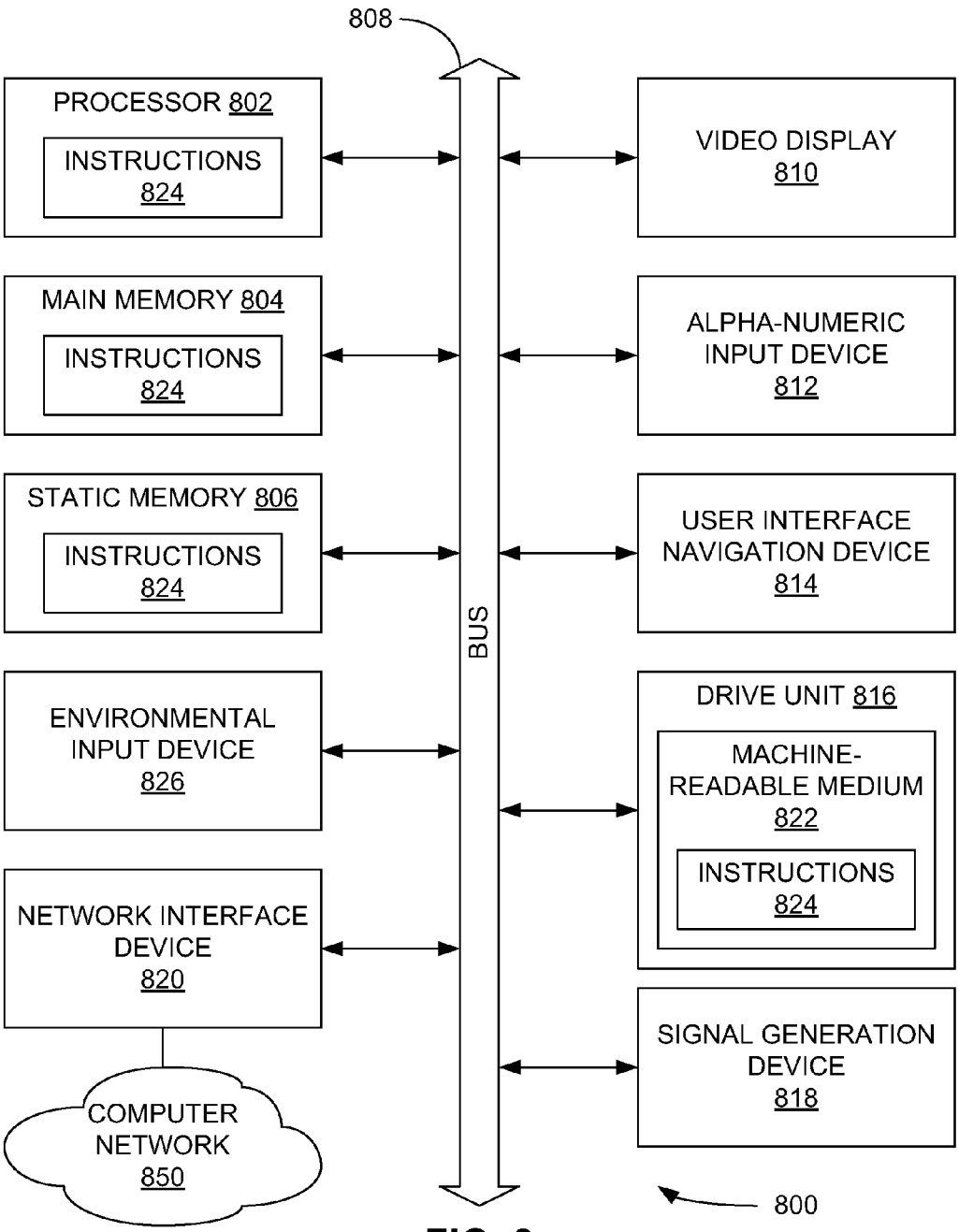
808
PROCESSOR 802
INSTRUCTIONS 824
MAIN MEMORY 804
INSTRUCTIONS 824
STATIC MEMORY 806
INSTRUCTIONS 824
ENVIRONMENTAL INPUT DEVICE 826
NETWORK INTERFACE DEVICE 820
COMPUTER NETWORK 850
BUS
VIDEO DISPLAY 810
ALPHA-NUMERIC INPUT DEVICE 812
USER INTERFACE NAVIGATION DEVICE 814
DRIVE UNIT 816
MACHINE-READABLE MEDIUM 822
INSTRUCTIONS 824
SIGNAL GENERATION DEVICE 818
800

FIG. 8

USER INTERFACE FOR SIMULTANEOUS DISPLAY OF VIDEO STREAM OF DIFFERENT ANGLES OF SAME EVENT FROM DIFFERENT USERS

CROSS-REFERENCE TO RELATED PATENT DOCUMENTS

This patent application is a continuation of and claims the benefit of priority to U.S. patent application Ser. No. 13/398,227, entitled "CONTENT SHARING VIA SOCIAL NETWORKING," filed Feb. 16, 2012, which claims the benefity of priority to U.S. Provisional Application No. 61/537,526, entitled "CONTENT SHARING VIA SOCIAL NETWORKING," filed Sep. 21, 2011, the benefit of priority to each of which is claimed hereby, and each of which are incorporated by reference herein in its entirety.

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TECHNICAL FIELD

This application relates generally to the communication of content and, more specifically, to systems and methods for the sharing of content facilitated via social networking.

BACKGROUND

An ever-increasing use of the Internet is the sharing among users of content, such as video clips, audio segments, photographs, and the like. Many mechanisms exist for such sharing, from direct transfer of such content from one user to another, such as by way of e-mail, to the posting of such content on a website so that the content may be available to visitors of the website. The capabilities of the Internet and associated communication devices have evolved so that more advanced forms of content sharing, including one-on-one video conferencing, such as by way of Skype® and other mechanisms, have become more commonplace.

An innovation of the Internet that has also become popular among users is the creation of human "social" networks, such as Facebook® and Myspace®. In such a network, friends, acquaintances, and other types of human relationships may be explicitly specified, allowing connected or associated users to stay apprised of the current status and ongoing actions of each other. Such status may also include content, such as photographs, posted by one user to be viewed by other connected users.

BRIEF DESCRIPTION OF THE DRAWINGS

Some embodiments are illustrated by way of example and not limitation in the figures of the accompanying drawings in which:

FIG. **1** is a block diagram illustrating an example communication system;

FIG. **2** is a block diagram illustrating modules of an example host and/or visiting device of an example communication system;

FIG. **3** is a block diagram illustrating modules of an example server of an example communication system;

FIGS. **4**A, **4**B, and **4**C are communication diagrams illustrating example methods for sharing content via social network interaction.

FIG. **5** is a block diagram of an example content distribution system associated with an example communication system;

FIGS. **6**A through **6**J are example screenshots of an example user interface of an example application executing on a host and/or visiting device for the sharing of content;

FIGS. **7**A through **7**O are example screenshots of an example web-based user interface being viewed on a visiting device for the sharing of content; and

FIG. **8** is a diagrammatic representation of a machine in the example form of a computer system within which a set of instructions for causing the machine to perform any one or more of the methodologies discussed herein may be executed.

DETAILED DESCRIPTION

Example methods and systems for sharing content, such as photographs, audio content, video content, textual content, graphical content, and the like, via a social network are discussed. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of example embodiments. It will be evident, however, to one skilled in the art that the present subject matter may be practiced without these specific details. It will also be evident that the particular types of systems and methods described herein are not limited to the examples provided and may include other scenarios not specifically discussed.

In accordance with an example embodiment, FIG. **1** illustrates an example communication system **100** for the sharing of content **120** among multiple users. The content **120** may be any content generated or captured by a user that is of interest to another user, including, but not limited to, video content, audio content, audio/video content, textual or graphical content, and photographs or still photo images. Types of textual or graphical content may include, for example, textual or map data indication a location of a user as determined by electronic signals, environmental data, and other inputs that may be captured by a user device. In one implementation, the capture of the content **120** may be ongoing while the content **120** is being shared or distributed within the communication system **100**.

The communication system **100** includes at least one host device **102** and multiple visitor devices **104**A, **104**B, **104**C (collectively or individually, **104**) associated with users or members of a social network **110** that share content by way of a communication network **106**. Examples of the social network **110**, or the infrastructure supporting such a network **110**, include, but are not limited to, Facebook® and Myspace®. In other examples, other devices not strictly associated with the social network **110** may also send or receive the content **120** via the communication network **106**.

Examples of the communication network **106** may include, but are not limited to, any and/or all of a wide-area network (such as the Internet), a local-area network (LAN) (such as an IEEE 802.11x (Wi-Fi) network), a Bluetooth connection, a Near Field Communication (NFC) connection, an Ethernet connection, a mobile or cellular communications device network (such as a third generation (3G) or fourth generation

(4G) connection), and a microcell network, or combinations thereof. The communication network **106** may include one or more servers, such as web or API servers, content distribution servers, and the like, as is described in greater detail below, one or more of which may support the operation of the social network **110**. In some examples, the communication network **106** may include any number of transmitters, receivers, switches, repeaters, and other components to facilitate communication between the host device **102** and the visiting devices **104**.

As shown in FIG. **1**, the host device **102** provides or sources the content **120** by way of the communication network **106** to one or more visitor devices **104** for presentation or display to the users of the visitor devices **104**. In some implementations, each of the host device **102** and/or the visitor devices **104** may be any communication device capable of generating, capturing, transmitting, and/or receiving the content **120**. Examples of the host device **102** and the visitor devices **104** include, but are not limited to, smart phones, personal digital assistants (PDAs), desktop computers, laptop computers, netbook computers, tablet computers, gaming systems, and televisions. While FIG. **1** displays a single host device **102** and three member visitor devices **104**, any number of host devices **102** and visitor devices **104** may share multiple items or streams of content **120** via the communication network **106**. In many instances, a single user device may operate as both a host device **102** that provides content **120**, and as a visitor device **104** that receives content **120**, at various times, or even concurrently or simultaneous.

In at least some examples, the communication system **100** employs the social network **110** or associated access site to notify users of potential visitor devices **104** of the availability of content **120** being hosted by a host device **102** automatically in a timely manner. A potential reason for employing the social network **110** in this capacity is that users most likely to be interested in receiving the content **120** may be those that are connected to the user of the host device **102** in some way, such as friends, family members, or acquaintances, as may be indicated by way of the social network **110**. Additionally, comments or other indications, such as "likes", regarding the content **120** may be easily provided via the same social network **110**. Other potential advantages may be discerned from the various embodiments described in greater detail below.

As employed herein, a host may be any user or some other identifiable entity or organization that may source the content **120** to be shared. For example, a news agency capable of streaming video content, and that may also maintain a presence on the social network **110**, may be considered a host. Likewise, a visitor may be any user, entity, or organization that may "visit" a host by receiving the content **120** being generated or transmitted by that host.

FIG. **2** is a block diagram of an example embodiment of a host and/or visitor (or user) device **200** that may serve as one of the host devices **102** and/or visitor devices **104** depicted in FIG. **1**. The user device **300** may include a number of software and/or hardware modules, such as a user interface module **202**, a location services module **204**, an environment detection module **206**, a content caching module **208**, a content push mechanism module **210**, a content ingestion module **212**, and a social network interface module **214**. In other user devices **200**, one or more of the modules **202-214** may be omitted, and one or more modules not depicted in FIG. **2** may be included. In one example, the modules **202-214** may be software modules that constitute at least part of an application being executed by one or more processors on the user device **200**. More generally, the modules **202-214** may be hardware, software, firmware, or some combination thereof.

In the user device **200**, the user interface module **202** may facilitate various operations for the sharing and receiving of content **120** by the user of the host/visitor device **200**, as well as access to the social network **110** employed to facilitate the content sharing. As discussed more fully below, these aspects may include, but are not limited to, the request or approval of the sharing of content **120**, the actual capture, generation, and/or viewing of the content **120**, and the specification by a user of the types of content **120** or possible hosts of content **120** of interest to the user, as well as any interfacing with the social network **110** performed in conjunction with the sharing of content **120**. More specific examples of the user interface provided by the user interface module **202** are discussed in greater detail below in conjunction with FIGS. **6**A through **6**J and FIGS. **7**A through **7**O.

The location services module **204** may provide or generate information regarding the physical location of the user device **200**. In one example, the location services module **204** may determine location by way of signals received from a Global Positioning System (GPS), an Assisted GPS (A-GPS), a Wi-Fi Positioning System, and/or cell-site triangulation. The location services module **204** may receive such signals by way of circuitry of the user device **200** and process one or more of the signals to determine the location. As described below, this location information may be used to determine if and when content **120** may be offered for reception by other users.

The environment detection module **206** may receive signals from one or more sensors residing on, or in communication with, the user device **200** to indicate various environmental conditions in the vicinity of the user device **200**. Such signals may indicate, for example, atmospheric pressure, temperature, light, velocity, acceleration, orientation, and so on, as generated by sensors such as light meters, accelerometers, gyroscopes, thermometers, and the like. For example, persistent changes in acceleration may indicate the client device is located in a moving car, or the detection of multiple voices may indicate presence within a crowd. The environment detection module **206** may also employ signals from various communication network interfaces, such as Near-Field Communication (NFC) signals, Bluetooth® communication signals, Wi-Fi communication signals, and the like to supplement and enhance the location information of the user device **200** generated by the location services module **206** to more closely define the location of the user device **200**.

The content caching module **208** may store locally on the user device **200** content **120** that has been captured at the user device **200** but has not been transmitted to the communication network **106** for sharing with other user devices **200**, such as during times when the user device **200** has lost contact with the communication network **106**. In response to the connection between the communication network **106** and the user device **200** being restored, the cached content, including photos, audio, video, textual data, graphical data, and the like, may then be uploaded to a server or other node of the communication network **106** for subsequent transfer to the other user devices **200**.

The content push mechanism module **210** facilitates the reception of content **120** at the device **200** operating as a visitor device **200** from a distribution server or other device of the communication network **106** under a "push" data transfer model. For example, a Comet web application model may be employed to receive content **120** and other data under a "hanging GET" protocol, in which the server maintains a HyperText Transfer Protocol (HTTP) request from the user device **200** indefinitely to push the content **120** to the user device **200**.

The content ingestion module **212** may be responsible for taking the content **120** captured at the user device **200** and possibly modifying, adjusting, or otherwise processing the content **120** before sharing the data via the communication network **106**. For still image content **120**, examples of such processing may include, but are not limited to, scaling the image, and adjusting the resolution, orientation, brightness, sharpness, color, contrast, or focus of the image. These operations may depend on several factors, including, but not limited to, the capture and display capabilities of the user device **200**, and the speed of the communication network **106** coupling the user device **200** with other user devices **200**. The content ingestion module **212** may also package various metadata with the content **120**, such as the location and environmental data discussed above.

The social network interface module **214** may facilitate the transfer of information, as well as the processing of that information, between an application executing on the user device **200** and the social network **110**. Such information may include, for example, "friends", family members, and/or acquaintances of users as denoted in the social network **110**, as well as their current status, possibly including their current location. This information may be utilized to ascertain potential visitors for a host of content **120**. In some examples, comments, "likes", and similar information regarding a visitor's view of content **120** or a host of that content **120** may also be maintained by the social network **110** to provide information to other potential visitors of content **120** or a host of that content **120**. Other information may also be transmitted between the social network **110** and the application in other embodiments. In addition, the application may allow a user of the device **200** executing the application to log-on to the social network **100** and perform a number of social-network-related functions via the application.

FIG. **3** is a block diagram of an example embodiment of a server device **300** located within, or coupled with, the communication network **106** of FIG. **1**. In at least some examples, the server device **300** may facilitate activities regarding the transmission of content **120** between user devices **200**, including, for example, the determination of potential visitors via the social network **110**, as well as the initiation and continued control of the transmission of content **120** between the user devices **200**. In various examples, the service device **300** may be an Applications Programming Interface (API) server, a web server, or another type of server capable of performing the various operations described herein.

The server device **300** may include a number of software and/or hardware modules, such as an API module **302**, a user preferences module **304**, a social network contacts module **306**, a host/visitor status module **308**, a content push mechanism module **310**, a distribution server selection module **312**, a content storage module **314**, and an incentive/award module **316**. In other server devices **300**, one or more of the modules **302-316** may be omitted, and one or more modules not depicted in FIG. **3** may be included. In one example, the modules **302-316** may be software modules that constitute at least part of an application being executed by one or more processors on the server device **300**. More generally, the modules **302-316** may be hardware, software, firmware, or some combination thereof. Further, the server device **300** may be embodied in multiple separate devices that form a system capable of accomplishing the operations of the server device **300** as described herein.

The API module **302** may facilitate communications between the server device **300** and multiple user devices **200** and/or the social network **110** for a variety of purposes. Such purposes may include, but are not limited to, the collection of information from the social network **110** for determining possible hosts of the content **120** and potential visitors for those hosts, information regarding the perception of visitors of a particular host or associated content **120**, and communication between the server device **300** and the user devices **200** regarding the initiation and control of the actual sharing of content **120** among the user devices **200**.

The user preferences module **304** acquires and maintains data associated with the preferences of potential hosts and visitors of content **120** regarding the transmission and reception of the content **120**. For example, the user preferences module **304** may maintain data generated from user responses in association with the first execution of an application employed in the user device **200** to facilitate the sharing of content **120**. Explicit user preferences may also be retrieved at other times by way of the application in other examples. Examples of such user preferences are described more fully below in conjunction with FIG. **4**C.

One type of user preference data may include the types of content **120** in which each potential visitor may be interested. The types of content **120** may refer to, for example, the format of the content **120** (for example, video, audio, textual, graphical, and so on), the subject matter of the content **120** (for example, sports-related, news-related, family-related, friend-related, and so forth), and other factors associated with the content **120**. In one example, the user may indicate a preference for particular content **120** by way of "liking" the content **120**, or providing positive comments regarding the content **120**, as mentioned above.

Another type of preference data may not be explicitly specified by the user, but is instead derived from previous user actions, such as previous content **120** viewed, previous hosts visited, previous websites viewed, days of the week or times of the day during which such user actions occurred, user activities in connection with the social network **110** (FIG. **1**), and so forth.

In some implementations, the user preference information may be employed to automatically present certain types of content **120**, or content **120** from certain hosts, to the user without prompting the user for approval. In other examples, the preference information may be used to inform the user of content **120** in which the user may be interested, and query the user as to whether they desire to visit the host associated with the content **120**. In yet other situations, the preference information may prevent certain content **120** from being offered to the user, such as when the user has explicitly indicated a lack of interest in such content **120**, or in any content **120** from a particular host designated by the user.

The social network contacts module **306** may retrieve data from the social network **110** identifying friends, family, likes, and so on for each potential visiting user. Further, this data may be updated by way of retrieving the information periodically from the social network **110**. For example, the data may indicate hosts and their associated potential visitors based on friends, family, and other acquaintances as indicated in the social network **110**. The social network contacts module **306** may also identify other potential visitors for any particular hosts based on commonalities or other factors possibly linking a host and a potential visitor, including, but not limited to, related educational backgrounds, business associations, social interests, and the like. In another example, relationships other than those specifically designated by the social network **110**, such as friends of friends, friends of family members, and the like, may be regarded as potential visitors for each possible host of content **120**. Conversely, the social

network contacts module **306** may track potential hosts for a user in a possible visitor role in a way similar to that described above.

The host/visitor status module **308** may maintain current information, and possibly historical data, regarding the status of each user device **200**. This information may include, for example, the current geographic location of each user device **200**, as well as previous locations of the device **200**. As indicated above, such data may be provided by the location services module **204** and/or the environment detection module **206** of each user device **200**.

With respect to content sharing, the host/visitor status module **308** may maintain information regarding current and/or former visitations from both a host and a visitor standpoint. Such information may include the format, subject matter, and other aspects of the content **120** transmitted or received, the visitors or host associated with the content **120** being shared, any particular distribution servers employed to forward the content **120** from the host to the visitor, and the like.

As will be described in greater detail below, this status information may be utilized to determine whether a host is currently sharing content **120** (and, thus, possibly available to continue to share that content **120** with other visitors), whether the host has performed some kind of action or "gesture" via the user device **200** of the host which would indicate that the host may be in a position to share content **120** with one or more potential visitors, and identify which potential visitors may be interested in receiving the content **120**.

The content push module **310** may provide the functionality for the server device **300** to push content to the visitor devices **200** of a particular group **110**. As mentioned above, the pushing of content **120** may be facilitated by way of a Comet web application model to distribute content **120** and other data to the client devices **300** under a "hanging GET" protocol. In another example, the functionality of the content push module **310** may provided by way of a separate service device, such as a server device specifically allocated to perform the distribution of the content **120** from a host device to a visitor device.

The distribution server selection module **312** may select a distribution server from a group of such servers to perform the content **120** distribution from a host to one or more visitor devices **200**. In one example, the group of servers may define a distribution server "farm" provided primarily for content distribution. To perform the selection, the distribution server selection module **312** may access information regarding an item or stream of content **120** to be distributed to a new visitor requesting the content **120**. Depending on the current number of visitors being serviced by each of the distribution servers, possibly in addition to other factors, the distribution server selection module **312** may select a distribution server currently servicing other visitors or a new distribution server from the group to provide the content **120** to the new visitor.

The content storage module **314** may store and manage content **120** that is yet to be distributed to one or more visitor user devices **200**. For example, the content push module **310** may allow visitor devices **200** that are in the process of receiving content **120** while employing the server device **300** in a digital video recorder (DVR) mode in which pausing, rewind, fast-forward, and similar playback modes are provided. The content storage module **314** may also provide a complete item or stream of content **120** to a visitor that has started its visitation of the host after the start of the content **120** has been transmitted to other visitors, resulting in the content **120** being delayed to the late-arriving visitor relative to the other visitors. In other implementations, the functionality of the content storage module **314** may be provided in a separate distribution server.

The incentive/award module **316** may provide various incentives, awards, or recognition to users based on various aspects of hosting and/or receiving content **120**. For example, the incentive/award module **316** may provide recognition of a host for the most visits by another user over some timer period, the total distance over which content **120** was transmitted to a visitor, the highest number of "likes" or positive comments from visitors regarding an item or stream of content **120**. From the perspective of the visitor, recognition could be provided in light of the highest number of different hosts or "places" visited, the distances involved in those visits, and so on. In one example, recognition of these milestones may be published via the social network **110**. The incentive/award module **316** may also provide or designate more substantive incentives or awards, such as cash awards or credits for employing the content-sharing service of the communication system **100**.

FIGS. **4**A, **4**B, and **4**C are communication diagrams illustrating example methods **400**A, **400**B, and **400**C (collectively, methods **400**) for sharing content using notification through a social network, such as the social network **110** of the communication network **100** of FIG. **1**. However, other communication systems utilizing different components or systems may employ the methods depicted in FIGS. **4**A through **4**C in other examples. Further, alternatives of each of the methods **400** may omit one or more operations and communications described in FIGS. **4**A through **4**C, or may add other operations and communications not shown therein. In addition, each of the methods **400** may be encoded as instructions on a non-transitory computer-readable storage medium, such as, for example, an integrated circuit, magnetic disk, or optical disk, which are readable and executable by one or more computers or other processing systems, such as the user devices **200** of FIG. **2** and the server **300** of FIG. **3**.

In one example, prior to execution of the example methods **400** of FIGS. **4**A and **4**B, a plurality of user devices **200** may register for the ability to share content **120** in conjunction with the use of a social network **110**. In one example, this registration may occur as the result of a software application being installed and executed on each of the user devices **200**. Further, as a part of the installation process, the application may ask the user of the device **200** for information regarding, for example, the user, the user's involvement with the social network **110**, and the interest level of the user in various types of content **120**. Examples of the desired information, include, but are not limited to, the user's name and other identifying information, the user's identifier within the social network **100**, and the formats, subject matter, and other characteristics of the user's favorite or desired content **120**. Such information may be stored in the user device **200**, the server device **300**, or another device or database of the communication system **100** of FIG. **1**. In some implementations, this information may also be used to gather further data regarding the historical habits of the user regarding the types of content **120** received, the particular time periods in which the user accessed the content **120**, and the like. This information may be employed as described above to control or direct the sharing of content among the user devices **200**. The method **400**C of FIG. **4**C denotes such a registration operation, which is described more fully below.

In the example method **400**A of FIG. **4**A, a device **200**, under the direction of a user, captures or generates content **120** (operation **402**), such as one or more still images, textual data, graphical data, audio data, and/or video data. In some

examples discussed below, particular emphasis is placed on the sharing of a video data stream, but the scope of the embodiments described herein is not limited to video data.

In some examples, the user device **200** may also detect a user action related to the content **120** captured or generated (operation **404**). While the user action is depicted in FIG. **4**A as occurring after the capture of the content **120**, such an order is not mandated, as the user actions may occur before and/or after the capture or generation of the content **120**. Such an action may be termed a "gesture", which in one instance may serve as a trigger for the sharing of the content **120**. Possible gestures may encompass any of a number of user actions, such as the changing of a geographic location, as detected by the location service module **204** and/or the environment detection module **206**. In one implementation, a gesture may include the actual capturing or generation of the content **120**, such as the taking of a photo or video, or the posting of the content **120** to the social network **110**. In another instance, the gesture may be the initiation of some other action involving the social network **110**, such as a social network status, comment or "like", friend request or acceptance, the creation of a photo album, or the like, that is not specifically related to the content **120** in the social network **110**, possibly accompanied with a location "tag" or metadata. Furthermore, a gesture may be an action of another person connected to the social network **110**, such as a friend or family member of the user of the device **200**. Such actions may include the viewing of content **120** posted to the social network **110**, the posting of content **120** to a portion of the social network **110** associated with the user (for example, the user's "wall"), comments regarding the user, and so forth. In another example, the gesture may be an explicit indication by the user via the user interface module **202** to share the content **120** as a host. Additionally, a gesture may include the hosting of content **120** to another visitor.

In response to capturing the content **120**, and possibly also in response to some additional user action, the device **200** of the potential host transmits a gesture indication (operation **406**) to a server **300**. In one implementation, the gesture indication **406** indicates that the device **200** of the potential host has captured (or is in the process of capturing) content **120** that may be shared with visitors. In response, the server **300** determines potential visitors that may be interested in "visiting" the host (operation **408**), thus receiving the captured or generated content **120**. In one example, the server **300** employs information previously received from the social network **110** regarding friends, family members, and possibly others of the potential host, and use that information to identify the potential visitors. In addition, the server **300** may also employ user preference information of the potential visitors to further determine which of the potential visitors may have an interest in receiving the captured or generated content **120**.

In response to determining the potential visitors, the server **300** may then transmit an availability notification (operation **410**) to each of the potential visitors identified. As a result, a gesture by the potential host may be reflected in a notification to a potential visitor, such as a notification provided via the social network **110**, or by way of an application executing on the user device **200** of the potential visitor. The availability notification, in one example, identifies the potential host in at least one of a number of ways, such as an individual host, as a current location of the potential host (for example, a city or neighborhood), an identity of a particular group in which the host is a member, and/or the nature of the content **120** to be shared. In one example, the availability notifications are provided through the application that provides the content-sharing capability on the devices **200**. In a second example, the availability notifications are provided by way of the social network **110**. After receiving the availability notification at their respective devices **200**, those potential visitors interested in receiving the content **120** may initiate a visit request (operation **412**) to be transmitted from the device **200** of the visitor to the server **300**.

Responsive to receiving the one or more visitor requests, the server **300** may transmit at least one host invitation to the device **200** of the potential host (operation **414**) for presentation to the potential host. In one example, the server **300** may transmit a single host invitation to the device **200** of the potential host when at least one potential visitor has issued a visit request **412**. In another implementation, the server **300** may transmit a host invitation for each visit request received. The server **300** may also indicate the identity of each potential visitor in the host invitation **414**.

In reply to the host invitation **414** presented to the potential host, the device **200** of the potential host may return a host response **418** to the server **300** (operation **416**) at the initiation of the potential host. If the potential host decides not to fulfill the role of a host, the server **300** may then inform the devices **200** of the potential visitors that the content **120** will not be shared (not shown in FIG. **4**A). If, instead, the potential host decides to become a host for the content **120**, the server **300** may then determine or select one or more distribution servers by which to forward the content to the devices **200** of the visitors (operation **418**). Such a selection may be based on a number of factors, including, but not limited to, the number of visitors to receive the content **120**, the communication bandwidth required to transmit the content **120**, and the communication capabilities of the communication network **106**, the distribution servers, and the receiving devices **200**. An example method by which the distribution server is selected is discussed below in conjunction with FIG. **5**. In one example, the distribution server determination may be performed within the server **300**, while in other cases, this operation may be provided by way of a separate device within the communication network **106** (FIG. **1**). Furthermore, the server **300** may select one or more distribution servers from a dynamically generated list of servers.

Once the server **300** selects the one or more distribution servers, the server **300** may provide a distribution server indication to both the device **200** of the host (operation **420**A) and the devices **200** for each of the visitors (operation **420**B). In one example, the distribution server indications allow each of the devices **200** to engage in communication with the correct server to transmit or receive the content **120**, as appropriate. In response to receiving the distribution server indication, the device **200** of the host initiates distribution of the content **120** via the indicated server (operation **422**).

In some implementations, the content **120** distributed to the visitors may be the content **120** currently being captured and transmitted by the device **200** of the host. In other embodiments, the visitor may being receiving the content **120** at the beginning of the capture or generation of the content **120** after the content **120** has been stored or cached at the device **200** of the host, or on a server of the communication network **106**. Further, the distribution of the content **120** may be controlled by each visitor via DVR-like commands, such as rewind, fast-forward, pause, and so on.

In another implementation, multiple different streams or items of content **120** from multiple hosts may be made available to one or more visitors. As such, the visitor may view the multiple streams or items of content **120** concurrently or simultaneously, such as by way of "tiled" or "picture-in-picture" view. In one example, the multiple sources of content **120** may reflect different angles or points of view of the same event or location.

In one example, visitors aware of the content **120**, whether or not actually visiting the host, may inform their friends and other contacts via the social network **110** of the content **120** being hosted by another user. As a result, "friends of friends" not connected directly to the host of the content **120** also may become visitors of the host. Moreover, the "friends of friends" visitors may also notify additional friends of the same content **120**. This notification process may continue indefinitely, possibly resulting in a large number of visitors for the host based on the social network **110**. In other implementations, visits to one or more hosts may be open or available to most or any potential visitors, including, for example, anonymous users and users employing aliases or pseudonyms.

In an embodiment, any and/or all of the communications from the server **300** to the hosts **200**, such as the availability notification (operation **410**), the host invitation **414**, and/or the distribution server indications (operation **420**) may be issued according to a push notification mechanism, such as the Cloud-To-Device Messaging (C2DM) messaging framework provided by Google® Inc., or the device push notification channels supported by Apple® Inc.

FIG. **4**B provides another example method **400**B for the sharing of content **120** captured or generated at a potential host device **200**. The method **400**B is similar in several respects to the method **400**A of FIG. **4**A, described above. However, instead of waiting to issue the host invitation (operation **414**) until at least one visit request has been received from a device **200** of a potential visitor, the server **300** transmits the host invitation in response to receiving the gesture indication **406** from the device **200** of the potential host. Thereafter, when an affirmative host response is received (operation **416**) indicating that the potential host agrees to that role, the server then determines the potential visitors **408** (operation **408**) and notifies the identified potential visitors accordingly (operation **410**). In another example, if the host response (operation **416**) indicates that the potential host does not wish to host visitors, the selection of potential visitors (operation **408**) and the transmission of associated availability notifications (operation **410**) need not occur.

In a related example, the issuance of the host invitation (operation **414**) may occur prior to the capture of any content (operation **402**). For instance, at least some of multiple devices **200** may produce gesture indications (operation **406**) indicating their current location. Based on a particular location being of interest (say, the location of a newsworthy event), host invitations (operation **414**) may be issued to those devices **200** corresponding to the location of interest. In a further embodiment, the host invitations (operation **414**) may be issued to devices **200** that have not issued a gesture indication (operation **406**), wherein the host invitation (operation **414**) indicates a particular location of interest, requesting host responses (operation **416**) from those devices currently positioned at the requested location. Thereafter, a user willing to serve as a host may begin the capture of content (operation **402**) for transmission to one or more visitor devices **200**.

FIG. **4**C is a communication diagram of yet another example method **400**C for content sharing. The method **400**C is similar to the method **400**B of FIG. **4**B, except that no availability notifications (operation **410**) and visit requests (operation **412**) are transmitted or received. Instead, the user preferences and related information discussed above may specify the format and types of content in which a potential visitor is interested, as well as the potential hosts from which the user may receive the content **120**. The server **300** may retrieve such information from the user by way of a user registration (operation **401**), which may occur when the user first causes the application to be executed. As a result, the server **300** may determine the potential visitors (operation **408**) for a particular item or stream of content **120** based on that information and proceed to determine the one or more distribution servers to be used (operation **418**), and then provide distribution server indications to both the device **200** of the host (operation **420**A) and the devices **200** of the visitors (operation **420**B).

As mentioned above, with respect to user registration (operation **401**), the user may indicate the types of content **120** of interest to the user, and other information relating to the content **120**. For example, the user may designate the potential hosts in which he is interested (possibly termed as "following" that host), content **120** associated with a particular geographic area or region, content **120** representative of a particular topic, and content **120** that may be presented as part of a particular news feed. Furthermore, a selection of a particular type of content **120** may be conditioned by a time limit, such as for example, over the next day or week.

In other examples similar to those illustrated in FIGS. **4**B and **4**C, a host invitation (operation **414**) and host response (operation **416**) may not be necessary. For example, if the potential host of content **120** is an individual or an entity, such as a news organization, that is always willing to (or capable of) serving as a host for any new content **120** generated or received at the device **200** of the host, the informational exchange embodied in the host invitation and host response may be unnecessary. Thus, after the capture of content (operation **402**) and/or the detection of a related user action (operation **404**), thus causing a gesture indication to be transmitted to the server **300** (operation **406**), the potential visitors may be determined (operation **408**), the distribution server selected (operation **418**), the distribution server indications issued (operation **420**), and the content distribution initiated (operation **422**), as discussed above.

In one implementation, potential visitors may be determined by way of presenting indications of potential items or streams of content **120** for selection by the potential visitors, such as by way of the social network **110**. For example, a webpage associated with the social network **110** may present a number of "featured" items or areas of content **120**, such as different types of news, sports, and the like, or different geographic areas, such as specific cities, states, or countries. After being presented with these options, the potential visitor may select one or more of the features items for reception and viewing. In one example, such selections may only apply to a one-time item of content **120**, after which such selections may have no effect for that visitor.

In other examples, the determination of one or more distribution servers (operation **418**) and the associated distribution server indications (operation **420**) may not be implemented if the distribution servers are known in advance to the various devices **200** involved in the sharing of the content **120**.

While FIGS. **4**A, **4**B, and **4**C reflect separate devices **200** for hosts and visitors, a single device **200** may serve as both a host and a visitor for different items or streams of content **120**. For example, the sharing of content between two devices **200** may occur simultaneously therebetween using the various concepts described above, although employing a device **200** as a host device and a visitor device is not restricted to a bidirectional, one-to-one sharing of content **120**.

FIG. **5** is a block diagram of an example content distribution system **500** in which the device **200** of the host transmits content **510** to a distribution server **502**A, which in turn distributes the content **510** to one or more devices **200** for visitors of the host. In one example, the distribution server **502**A is selected as part of the example methods **400**A, **400**B,

and 400C of FIGS. 4A, 4B, and 4C, respectively (operation 422). As discussed earlier, the distribution server selection module 312 of the server 300 (FIG. 3) may perform the selection of the distribution server 502A. In other examples, other distribution servers 502B and 502C may be selected for distribution of the content 510 to other visitor devices 200 by either the distribution server selection module 312 or a separate traffic management device 504, shown in FIG. 5. Further, as described below, the distribution server selection module 312 in the server 300 (FIG. 3) or the traffic management device 504 may communicate with the distribution server 502A by way of a control connection 520 to determine whether more or fewer distribution servers may be desirable for distributing the content 510. In the implementation depicted in FIG. 5, the multiple distribution servers 502 may constitute at least a portion of a distribution server farm 501. While the server farm 501 of FIG. 5 explicitly illustrates only three distribution servers 502, a higher number of such servers 502 may be included in the server farm 501 in other embodiments.

In one implementation, the first distribution server 502A may be termed a "canonical server" for its status as the primary distribution server employed for sharing of the content 510. In one example, the canonical server 502A may not be capable of distributing the content 510 (for example, an audio/video stream) to each of the visiting devices 200. As a result, the canonical server 502A may keep the traffic management device 504 apprised of the visitor devices 200 currently receiving the content 510, as well as any other information that may aid the traffic management device 504 in enlisting another distribution server 502B, 502C into service for the distribution of the content 510.

In one example, the canonical distribution server 502A may be transferring multiple streams of content 510 simultaneously, with no other distribution servers 502B, 502C involved. While performing these transfers, the canonical distribution server 502A may determine that the number of visitor devices 200 receiving a particular stream of content 510 has increased beyond a predetermined threshold. In response, the canonical distribution server 502A may inform the traffic management device 504 of the condition, causing the traffic management device 504 to instruct the canonical server 502A to assign one or more of the remaining distribution servers 502B, 502C to additional visitor devices 200 requesting the content 510. In one example, the traffic management device 504 determines and informs the canonical server 502A which of the remaining distribution servers 502B, 502C are to be used. Such information may be based on random selection, consideration of current traffic levels regarding the content 510, and other factors.

In response to the selection of at least one additional distribution server 502B, 502C, the canonical server 502A directs the incoming content 510 to the selected distribution server 502B, 502C. In one implementation, the canonical server 502A establishes a proxy connection with the selected distribution server 502B, 502C, thereby accessing the selected distribution server 502B, 502C as a pseudo-visitor device 200. In addition, the canonical distribution server 502A, the traffic management device 504, the original server 300, or another device informs each newly-joining visitor device 200 of the identity of the distribution server 502B, 502C assigned thereto.

As a result, the canonical distribution server 502A acts as the single receiving point for the content 510 from the host device 200. In addition, the canonical server 502A then delivers the content 510 directly to one or more visitor devices 200, and may direct the content 510 to one or more additional servers 502B, 502C, which in turn transfer the content 510 directly to additional visitor devices 200. Therefore, the maximum number of distribution servers 502 separating the device 200 for the host and each of the devices 200 of the visitors may be two, thereby reducing the overall latency incurred in the transmission of the content 510.

Thereafter, as fewer visitors decide to continue to receive a particular stream of content 510, the number of distribution servers 502 utilized to forward the content to devices 200 of the visitors may be reduced accordingly, possibly to the point at which the canonical server 502A is only forwarding the content 510 directly to a number of devices 200 instead of also forwarding the content 510 to one or more of the remaining distribution servers 502B, 502C of the server farm 501.

FIGS. 6A through 6J provide screen views 600A through 600J of an example user interface of a user device 200 as provided by an application that facilitates the sharing of content among users of a social network, as described above. In the following examples, the user interface is provided by an application executing on a mobile device, such as a "smart" phone or PDA, although the same or similar applications for content sharing may be executed on other hardware platforms, such as desktop and laptop computers, table computers, game systems, televisions, and so on.

FIG. 6A exhibits an example screen view 600A displayed on a device 200 for a potential visitor. In one example, the screen view 600A represents a "profile" page of the user, which displays a "visit" button 602 for a specific friend of the user. In one example, the profile page shown in FIG. 6A is accessed by way of a preceding "friends" list listing the friend shown in the screen view 600A, along with other friends of the user of the device 200. To return to the friends listing, the user may simply activate the "friends" button 603 shown in the screen view 600A. In the specific example of FIG. 6A, the screen view 600A may also display various items of content, such as individual photos, a photo album, still images from video clips, and the like.

Presuming the user of the device 200 activates the "visit" button 602 shown in the screen view 600A, the application produces a confirmation page, shown in a screen view 600B of FIG. 6B. The screen view 600B provides a "visit" confirmation button 604 for confirming the request to visit the friend, and a "cancel" button 606 to cancel the request.

Presuming the user activates the "visit" confirmation button 604, the device 200 may present the screen view 600C of FIG. 6C, which informs the user by way of one or more status indicators 608A, 608B that the device 200 has sent the visitation request, and is awaiting approval of the requested visit. In the example of FIG. 6C, the screen view 600C may also display photo albums 610 and/or other content of the user.

Once the device 200 has received approval for the visit, content from the friend, serving as the host for the visiting user, is displayed to the user. As depicted in the screen view 600D of FIG. 6D, content 614 (in this case, a video stream) is presented to the user, and a visiting indicator 612 is displayed to remind the user that the device 200 is in a visiting mode. To terminate the visiting mode, the user may simply activate a "done" button 616 displayed in the screen view 600D.

Once the visiting mode is terminated, the user may be presented with a screen view 600E (presented in FIG. 6E) confirming termination of the visitation by way of a "done visiting" indication 617. In addition, the user may indicate its view of the content by way of "liking" the content on the social network 110 (FIG. 1) via a "like" button 618 or commenting on the content by activation of a "comment" button 620 that provides the comment on the social network 110. In addition, the screen view 600E may present profile photos

622 of one or more friends which, when activated, may cause the device 200 to present a screen associated specifically with the selected friend to allow the user to visit that friend.

In a separate example, FIG. 6F presents a screen view 600F seen by the potential visiting user when using the application. The screen view 600F indicates that a friend has begun hosting content, and asks if the user would like to visit or ignore the friend by way of a "visit" button 626 and an "ignore" button 624, respectively. In one example, if the user activates the "visit" button 626, the user may be presented with the screen view 600C of FIG. 6C, informing the user that the device 200 is awaiting approval to visit the friend.

While FIGS. 6A through 6F describe various screen views 600A through 600F that may be presented to a potential visitor, FIGS. 6G through 6J present screen views 600G through 600J from the perspective of a potential host. For example, FIG. 6G presents a screen view 600G of the potential host's profile page, which provides a "host" button 628 that, when activated, initiates the process of placing the device 200 of the host in a hosting mode, thus transmitting content to those visitors that are interested in the content.

Upon activation of the "host" button 628, a screen view 600H of FIG. 6H requests confirmation by presenting a second "host" button 630 and a "cancel" button 632. In one example, cancellation of the hosting request returns the user to the profile page screen view 600G of FIG. 6G.

If, instead, the user activates the second "host" button 630, the device 200 of the host begins a hosting session, and presents a screen view 600I (shown in FIG. 6I) displaying the content 636 that the host is presenting to other users. The screen view 600I also provides a "hosting" indicator 634 to ensure the user is aware that he is broadcasting to others, and also displays a "profile" button 638 that would return the user to the profile page of screen view 600G of FIG. 6G, thus ending the hosting session. In one example, those friends actually visiting (i.e., receiving the content 636) may be denoted on the screen view 600I, such as by way of photos or icons associated with each of the friends visiting.

Presuming the host has activated the "profile" button 638 of the screen view 600I, the device may present the "profile" page of the user in response. At some point thereafter, the user may then receive a request from a friend to begin hosting another session. To indicate the request, the device 200 of the host may present a screen view 600J shown in FIG. 6J, in which the requesting friend is identified, a "host" button 642 is presented to allow the host to begin the session, and an "ignore" button 640 is provided to allow the host to ignore the request. Presuming the host activates the "host" button 642, the device 200 may present another hosting confirmation screen view, such as the screen view 600H of FIG. 6H.

In the examples noted above, a device 200 may receive information regarding who is hosting, who is visiting, and so on by way of information passed between the server 300 and the devices 200 by way of the separate notification channel described above.

FIGS. 7A through 7O provide screen views 700A through 700O of example web-based user interfaces presented by way of a web browser for visiting a host in a variety of ways. More specifically, FIGS. 7A through 7D, FIG. 7N, and FIG. 7O present screen views of a content-sharing application (referred to the drawings as "Blue", developed by Color Labs, Inc.) as embedded in a "canvas" of a social networking webpage (in this case, Facebook). FIGS. 7E through 7M depict screen views of the social networking website not involving the use of the embedding environment. In other examples, the content-sharing application may be accessed as a web application directly outside of the social networking context.

FIG. 7A presents an example screen view 700A of the content-sharing application embedded within a social network webpage, with the application supplying a profile page providing a potential host indication 704 with an associate "visit" button 702 that, when activated, initiates a process in which the user may visit the indicated host. As shown in FIG. 7A, the screen view 700A may also provide one or more "album" summary areas 706, in which the album may include multiple items or streams of content for viewing.

Similarly, FIG. 7B illustrates an example screen view 700B of a webpage for an album. In one example, this webpage may be accessed by way of activating the album summary area 706 of the screen view 700A of FIG. 7A. In the screen view 700B, the album title 710 ("Work Food") is presented, along with the individual content items 712 that may be activated for viewing. Also provided is another "visit" button 708 that, when activated, will initiate a process by which the user may visit at least one of the listed potential hosts.

Presuming the visitation process has been initiated by activating one of the "visit" buttons 702, 708, as described above, the application may present the screen view 700C of FIG. 7C. Therein, content 714 may be presented to the visiting user, thereby experiencing what the host is experiencing. In the screen view 700C, the identity of the host, and an indication that the visitation is in progress, may be provided in a title area 716. In one example, the identity of each of the visitors may also be presented by way of an icon 718 or photo corresponding to each of the visitors. In one example, this information may be provided in the screen view 700C in real-time by way of a push notification channel, such as one that may employ a "hanging Get" protocol. In one implementation, the content 714 may be presented to the user via the Motion JPEG (M-JPEG) format.

FIG. 7D depicts an example screen view 700D of a "push notification" employing a push notification channel, such as the one mentioned above. In this example, the push notification informs the user that a friend is hosting content, specifically by way of a pop-up notification 720, which may provide a "visit" button 722. In one implementation, in response to the user activating the "visit" button 722, the content 714 sourced by the host may be presented, such as via the screen view 700C of FIG. 7C.

FIG. 7E presents an example screen view 700E of a hosting notification on the user's social networking (Facebook) webpage. In the screen view 700E, the hosting notification is presented as a "gesture" 724 (as described earlier) in a "ticker" of the social networking webpage. In one example, upon activation of the gesture 724, a pop-up area 726 may be presented by which the user may visit the indicated host, as shown in the screen view 700F of FIG. 7F. More specifically, the pop-up area 726 may include a "visit" link 730 to initiate a visit of the host indicated in the pop-up area 726. In an example, activating the link 730 may cause the presentation of a webpage for the application embedded in the canvas of the social networking site, such as shown in the screen view 700C of FIG. 7C. Also shown in the screen view 700F are "like" and "comment" links 732 associated with the social network site, whereby the user may provide input regarding the host or the content to be viewed.

In an alternative to the "visit" link 730, the user may visit the host by way of a "play" button 728 of the pop-up area 726, in which case the content sourced by the host may be provided "inline" within the current social network webpage. An example of such content is presented in an example screen

view **700**G of FIG. **7**G. Therein, a pop-up window **734** associated with the gesture **724** provides the content **736** being supplied by the host. In one implementation, a Flash® player is employed to provide the content **736** in an inline manner.

FIG. **7**H presents an example screen view **700**H illustrating a hosting notification by way of a "news feed" of the social network site. More specifically, a "story" **738** of the news feed may indicate that a particular friend of the user is currently hosting, and provide a "visit" link **740** to visit using the embedded application within the social network site, a "play" button **742** to visit inline within the news feed, and like/comment links **744**, similar to those respective features of the pop-up area **726** of FIG. **7**F.

FIGS. **7**I through **7**M provide example screen views **700**I-**700**M, respectively, of a social network webpage displaying various states of a social network webpage of the user visiting a host as presented by a Flash player. As shown in the screen view **700**I of FIG. **7**I, once a user has initiated an inline visit via a story, as described above with respect to FIG. **7**H, the Flash player provides an informational window **746** on the webpage indicating that the visit is being prepared. In one example, the screen view **700**I may be shown immediately after the user initiates the visit. Thereafter, the screen view **700**J of FIG. **7**J may present a second informational window **748** once the Flash player has contacted a server (such as the server **300** of FIG. **3**), providing information about the host, such as, for example, a name and photo or icon. FIG. **7**K depicts an example screen view **700**K of the same webpage after the visit has successfully completed, providing a third informational window **750** announcing completion of the visit, possible with a button **752** allowing the user to visit the embedded (canvas) application. The webpage may also alert the user in cases in which the visit was not successful, such as the example screen view **700**L of FIG. **7**L, which indicates that the potential host was unavailable, and possibly provides a button **756** allowing the user to restart the visitation attempt. In FIG. **7**M, an example screen view **700**M of the webpage informs the user of a network error, and possibly provides a button **760** to allow the user to retry the visit.

FIGS. **7**N and **7**O present example screen views **700**N and **700**O, respectively, reflecting visitation states that the embedded web application, as discussed in detail above, may render. In one example, these states may be provided by the M-JPEG player mentioned above. The screen view **700**N, for instance, may be presented to the user in response to the user initiating a visit via the embedded application, such as is described above in conjunction with FIGS. **7**A through **7**C, with the screen view **700**N displaying a message **762** indicating that the connection with the host is being formed. Once the visit is completed, the embedded application may provide the screen view **700**O of FIG. **7**O, which may provide a completion message **764** and may list attendees of the visit by way of icons or photo **766**, any of which the user may activate to initiate a visit therewith.

While FIGS. **6**A through **6**J and FIGS. **7**A through **7**O provide several examples of user interfaces associated with the embodiments described herein, many other examples providing the functionality described herein may be employed in other implementations.

As a result of at least some of the embodiments discussed herein, sharing of content, such as still images, video clips, audio segments, and textual data, may be shared easily among a number of user devices while employing a social network, such as Facebook®. For example, identification of possible visitors to a host may be accomplished by way of the social network, such as by way of identifying friends, family members, and others connected in some way to the host via the social network. In some implementations, the host may be informed of potential visitors desiring of a visit to the host, and potential visitors may be informed on a host currently providing content for sharing. Additionally, positive recognition for past or current activities by a user as a host and/or visitor may also be provided via the social network. Other ways of engaging in the sharing of content using the social network, such as by notifying multiple levels of friends in the social network of the content, as described above, may be utilized also. Access to the shared content, as well as various functions related thereto, may be supplied via an application executing on a user device specifically intended for the sharing of content, as well as the social network itself, thus allowing each user to engage in the sharing of content, either as a host or visitor, from a multitude of user devices and execution platforms.

Modules, Components, and Logic

Certain embodiments are described herein as including logic or a number of components, modules, or mechanisms. Modules may constitute either software modules (e.g., code embodied on a machine-readable medium or in a transmission signal) or hardware modules. A hardware module is a tangible unit capable of performing certain operations and may be configured or arranged in a certain manner. In example embodiments, one or more computer systems (e.g., a standalone, client, or server computer system) or one or more hardware modules of a computer system (e.g., a processor or a group of processors) may be configured by software (e.g., an application or application portion) as a hardware module that operates to perform certain operations as described herein.

In various embodiments, a hardware module may be implemented mechanically or electronically. For example, a hardware module may comprise dedicated circuitry or logic that is permanently configured (e.g., as a special-purpose processor, such as a field programmable gate array (FPGA) or an application-specific integrated circuit (ASIC)) to perform certain operations. A hardware module may also comprise programmable logic or circuitry (e.g., as encompassed within a general-purpose processor or other programmable processor) that is temporarily configured by software to perform certain operations. It will be appreciated that the decision to implement a hardware module mechanically, in dedicated and permanently configured circuitry, or in temporarily configured circuitry (e.g., configured by software) may be driven by cost and time considerations.

Accordingly, the term "hardware module" should be understood to encompass a tangible entity, be that an entity that is physically constructed, permanently configured (e.g., hardwired) or temporarily configured (e.g., programmed) to operate in a certain manner and/or to perform certain operations described herein. Considering embodiments in which hardware modules are temporarily configured (e.g., programmed), each of the hardware modules need not be configured or instantiated at any one instance in time. For example, where the hardware modules comprise a general-purpose processor configured using software, the general-purpose processor may be configured as respective different hardware modules at different times. Software may accordingly configure a processor, for example, to constitute a particular hardware module at one instance of time and to constitute a different hardware module at a different instance of time.

Hardware modules can provide information to, and receive information from, other hardware modules. Accordingly, the described hardware modules may be regarded as being communicatively coupled. Where multiple such hardware mod-

ules exist contemporaneously, communications may be achieved through signal transmission (e.g., over appropriate circuits and buses) that connect the hardware modules. In embodiments in which multiple hardware modules are configured or instantiated at different times, communications between such hardware modules may be achieved, for example, through the storage and retrieval of information in memory structures to which the multiple hardware modules have access. For example, one hardware module may perform an operation and store the output of that operation in a memory device to which it is communicatively coupled. A further hardware module may then, at a later time, access the memory device to retrieve and process the stored output. Hardware modules may also initiate communications with input or output devices, and can operate on a resource (e.g., a collection of information).

The various operations of example methods described herein may be performed, at least partially, by one or more processors that are temporarily configured (e.g., by software) or permanently configured to perform the relevant operations. Whether temporarily or permanently configured, such processors may constitute processor-implemented modules that operate to perform one or more operations or functions. The modules referred to herein may, in some example embodiments, comprise processor-implemented modules.

Similarly, the methods described herein may be at least partially processor-implemented. For example, at least some of the operations of a method may be performed by one or processors or processor-implemented modules. The performance of certain of the operations may be distributed among the one or more processors, not only residing within a single machine, but deployed across a number of machines. In some example embodiments, the processor or processors may be located in a single location (e.g., within a home environment, an office environment, or as a server farm), while in other embodiments the processors may be distributed across a number of locations.

The one or more processors may also operate to support performance of the relevant operations in a "cloud computing" environment or as a "software as a service" (SaaS). For example, at least some of the operations may be performed by a group of computers (as examples of machines including processors), these operations being accessible via a network (e.g., the Internet) and via one or more appropriate interfaces (e.g., APIs).

Electronic Apparatus and System

Example embodiments may be implemented in digital electronic circuitry, or in computer hardware, firmware, or software, or in combinations thereof. Example embodiments may be implemented using a computer program product (e.g., a computer program tangibly embodied in an information carrier in a machine-readable medium) for execution by, or to control the operation of, data processing apparatus (e.g., a programmable processor, a computer, or multiple computers).

A computer program can be written in any form of programming language, including compiled or interpreted languages, and it can be deployed in any form, including as a stand-alone program or as a module, subroutine, or other unit suitable for use in a computing environment. A computer program can be deployed to be executed on one computer or on multiple computers at one site or distributed across multiple sites and interconnected by a communications network.

In example embodiments, operations may be performed by one or more programmable processors executing a computer program to perform functions by operating on input data and generating output. Method operations can also be performed by, and apparatus of example embodiments may be implemented as, special purpose logic circuitry (e.g., a field programmable gate array (FPGA) or an application-specific integrated circuit (ASIC)).

The computing system can include clients and servers. A client and server are generally remote from each other and typically interact through a communication network. The relationship of client and server arises by virtue of computer programs running on their respective computers and having a client-server relationship to each other. In embodiments deploying a programmable computing system, it will be appreciated that both hardware and software architectures may be considered. Specifically, it will be appreciated that the choice of whether to implement certain functionality in permanently configured hardware (e.g., an ASIC), in temporarily configured hardware (e.g., a combination of software and a programmable processor), or a combination of permanently and temporarily configured hardware may be a design choice. Below are set forth hardware (e.g., machine) and software architectures that may be deployed in various example embodiments.

Example Machine Architecture and Machine-Readable Medium

FIG. **8** is a block diagram of a machine in the example form of a computer system **800** within which instructions for causing the machine to perform any one or more of the methodologies discussed herein may be executed. In alternative embodiments, the machine operates as a standalone device or may be connected (e.g., networked) to other machines. In a networked deployment, the machine may operate in the capacity of a server or a client machine in a server-client network environment, or as a peer machine in a peer-to-peer (or distributed) network environment. The machine may be a personal computer (PC), a tablet PC, a set-top box (STB), a Personal Digital Assistant (PDA), a cellular telephone, a web appliance, a network router, switch or bridge, or any machine capable of executing instructions (sequential or otherwise) that specify actions to be taken by that machine. Further, while only a single machine is illustrated, the term "machine" shall also be taken to include any collection of machines that individually or jointly execute a set (or multiple sets) of instructions to perform any one or more of the methodologies discussed herein.

The example computer system **800** includes a processor **802** (e.g., a central processing unit (CPU), a graphics processing unit (GPU), or both), a main memory **804**, and a static memory **806**, which communicate with each other via a bus **808**. The computer system **800** may further include a video display unit **810** (e.g., a liquid crystal display (LCD) or a cathode ray tube (CRT)). The computer system **800** also includes an alphanumeric input device **812** (e.g., a keyboard), a user interface (UI) navigation device **814** (e.g., a mouse), a disk drive unit **816**, a signal generation device **818** (e.g., a speaker), and a network interface device **820**. The computer system **800** may also include a environmental input device **826** that may provide a number of inputs describing the environment in which the computer system **800** or another device exists, including, but not limited to, any of a Global Positioning Sensing (GPS) receiver, a temperature sensor, a light sensor, a still photo or video camera, an audio sensor (e.g., a microphone), a velocity sensor, a gyroscope, an accelerometer, and a compass.

Machine-Readable Medium

The disk drive unit **816** includes a machine-readable medium **822** on which is stored one or more sets of data structures and instructions **824** (e.g., software) embodying or utilized by any one or more of the methodologies or functions

described herein. The instructions **824** may also reside, completely or at least partially, within the main memory **804** and/or within the processor **802** during execution thereof by the computer system **800**, the main memory **804** and the processor **802** also constituting machine-readable media.

While the machine-readable medium **822** is shown in an example embodiment to be a single medium, the term "machine-readable medium" may include a single medium or multiple media (e.g., a centralized or distributed database, and/or associated caches and servers) that store the one or more instructions **824** or data structures. The term "non-transitory machine-readable medium" shall also be taken to include any tangible medium that is capable of storing, encoding, or carrying instructions for execution by the machine and that cause the machine to perform any one or more of the methodologies of the present subject matter, or that is capable of storing, encoding, or carrying data structures utilized by or associated with such instructions. The term "non-transitory machine-readable medium" shall accordingly be taken to include, but not be limited to, solid-state memories, and optical and magnetic media. Specific examples of non-transitory machine-readable media include, but are not limited to, non-volatile memory, including by way of example, semiconductor memory devices (e.g., Erasable Programmable Read-Only Memory (EPROM), Electrically Erasable Programmable Read-Only Memory (EEPROM), and flash memory devices), magnetic disks such as internal hard disks and removable disks, magneto-optical disks, and CD-ROM and DVD-ROM disks.

Transmission Medium

The instructions **824** may further be transmitted or received over a computer network **850** using a transmission medium. The instructions **824** may be transmitted using the network interface device **820** and any one of a number of well-known transfer protocols (e.g., HTTP). Examples of communication networks include a local area network (LAN), a wide area network (WAN), the Internet, mobile telephone networks, Plain Old Telephone Service (POTS) networks, and wireless data networks (e.g., WiFi and WiMAX networks). The term "transmission medium" shall be taken to include any intangible medium that is capable of storing, encoding, or carrying instructions for execution by the machine, and includes digital or analog communications signals or other intangible media to facilitate communication of such software.

CONCLUSION

Thus, a method and system to share content among several communication devices have been described. Although the present subject matter has been described with reference to specific example embodiments, it will be evident that various modifications and changes may be made to these embodiments without departing from the broader scope of the subject matter. For example, while the majority of the discussion above notes the use of the embodiments with respect to general-purpose computer systems and applications, other software- or firmware-based systems, such as electronic products and systems employing embedded firmware, may also be developed in a similar manner to that discussed herein. Accordingly, the specification and drawings are to be regarded in an illustrative rather than a restrictive sense. The accompanying drawings that form a part hereof, show by way of illustration, and not of limitation, specific embodiments in which the subject matter may be practiced. The embodiments illustrated are described in sufficient detail to enable those skilled in the art to practice the teachings disclosed herein. Other embodiments may be utilized and derived therefrom, such that structural and logical substitutions and changes may be made without departing from the scope of this disclosure. This Detailed Description, therefore, is not to be taken in a limiting sense.

Such embodiments of the inventive subject matter may be referred to herein, individually and/or collectively, by the term "invention" merely for convenience and without intending to voluntarily limit the scope of this application to any single invention or inventive concept if more than one is in fact disclosed. Thus, although specific embodiments have been illustrated and described herein, it should be appreciated that any arrangement calculated to achieve the same purpose may be substituted for the specific embodiments shown. This disclosure is intended to cover any and all adaptations or variations of various embodiments. Combinations of the above embodiments, and other embodiments not specifically described herein, will be apparent to those of skill in the art upon reviewing the above description.

All publications, patents, and patent documents referred to in this document are incorporated by reference herein in their entirety, as though individually incorporated by reference. In the event of inconsistent usages between this document and those documents so incorporated by reference, the usage in the incorporated reference(s) should be considered supplementary to that of this document; for irreconcilable inconsistencies, the usage in this document controls.

In this document, the terms "a" or "an" are used, as is common in patent documents, to include one or more than one, independent of any other instances or usages of "at least one" or "one or more." In this document, the term "or" is used to refer to a nonexclusive or, such that "A or B" includes "A but not B," "B but not A," and "A and B," unless otherwise indicated.

What is claimed is:

1. A method, comprising:

recording logical relationship information, the logical relationship information describing logical relationships between a first user and other users, the logical relationship information associated with a social networking site;

receiving, at a host, a live video stream from a mobile device of the first user, the live video stream including recorded visual data of an event captured by a camera on the mobile device of the first user at a first angle;

determining a location for the mobile device of the first user;

receiving, at the host, a live video stream from a mobile device of a second user, the live video stream from the mobile device of the second user including recorded visual data of the event captured by a camera on the mobile device of the second user at a second angle;

determining a location for the mobile device of the second user;

in response to a determination that the mobile device of the first user is at a same location as the mobile device of the second user, forming a logical group including at least the first user, the second user, and a third user based on the event, the third user not having a connection to the first and second users in the logical relationship information; and

causing the live video stream from the mobile device of the first user and the live video stream from the mobile device of the second user to be simultaneously displayed on a display of a third user device associated with the third user.

2. The method of claim **1**, wherein the forming of the logical group is based on a recognition that the live video

stream from the first user and the live video stream from the second user are both related to the event.

3. The method of claim 1, wherein the simultaneous display of the live video stream from the first user and the live video stream from the second user is performed by way of a tiled view.

4. The method of claim 1, wherein the simultaneous display of the live video stream from the first user and the live video stream from the second user is performed by way of a picture-in-picture view.

5. The method of claim 1, further comprising:

receiving live video stream from a mobile device of a fourth user, the live video stream including recorded visual data of the event captured by a camera at a third angle on a fourth user device associated with the fourth user;

adding the fourth user to the logical group; and

causing the live video stream from the fourth user to be simultaneously displayed on the display of the third user device along with the content from the first user and the live video stream from the second user.

6. A system comprising:

one or more processors;

a computer readable medium having instructions stored thereon, which, when executed by the one or more processors, cause the system to:

record logical relationship information, the logical relationship information describing logical relationships between a first user and other users, the logical relationship information associated with a social networking site; and

receive a live video stream from a mobile device of the first user, the live video stream including visual data recorded of an event by a camera on the mobile device of the first user at a first angle, determine a location for the mobile device of the first user, receive a live video stream from a mobile device of a second user, the live video stream including visual data recorded of the event by a camera on the mobile device of the second user at a second angle, and determine a location for the mobile device of the second user;

in response to a determination that the mobile device of the first user is at a same location as the mobile device of the second user, form a logical group including at least the first user, the second user, and a third user based on the event, the third user not having a connection to the first and second users in the logical relationship information; and

cause the live video stream from the mobile device of the first user and the live video stream from the mobile device of the second user to be simultaneously displayed on a display of a third user device associated with the third user.

7. The system of claim 6, wherein the forming of the logical group is based on a recognition that the live video stream from the mobile device of the first user and the live video stream from the mobile device of the second user are both related to the event.

8. The system of claim 6, wherein the simultaneous display of the live video stream from the mobile device of the first user and the live video stream from the mobile device of the second user is performed by way of a tiled view.

9. The system of claim 6, wherein the simultaneous display of the live video stream from the mobile device of the first user and the live video stream from the mobile device of the second user is performed by way of a picture-in-picture view.

10. The system of claim 6, wherein the instructions further cause the system to receive a live video stream from a fourth user, the live video stream including visual data recorded of the event at a third angle on a fourth user device associated with the fourth user and cause the live video stream from the fourth user to be simultaneously displayed on the display of the third user device along with the live video stream from the first user and the live video stream from the second user.

11. A non-transitory computer-readable storage medium comprising instructions that, when executed by at least one processor of a machine, cause the machine to perform operations comprising:

recording logical relationship information, the logical relationship information describing logical relationships between a first user and other users, the logical relationship information associated with a social networking site;

receiving, at a host, a live video stream from a mobile device of the first user, the live video stream including recorded visual data of an event captured by a camera on the mobile device of the first user at a first angle;

determining a location for the mobile device of the first user;

receiving, at the host, a live video stream from a mobile device of a second user, the live video stream from the mobile device of the second user including recorded visual data of the event captured by a camera on the mobile device of the second user at a second angle;

determining a location for the mobile device of the second user;

in response to a determination that the mobile device of the first user is at a same location as the mobile device of the second user, forming a logical group including at least the first user, the second user, and a third user based on the event, the third user not having a connection to the first and second users in the logical relationship information; and

causing the live video stream from the mobile device of the first user and the live video stream from the mobile device of the second user to be simultaneously displayed on a display of a third user device associated with the third user.

12. The non-transitory computer-readable storage medium of claim 11, wherein the forming of the logical group is based on a recognition that the live video stream from the first user and the live video stream from the second user are both related to the event.

13. The non-transitory computer-readable storage medium of claim 11, wherein the simultaneous display of the live video stream from the first user and the live video stream from the second user is performed by way of a tiled view.

14. The non-transitory computer-readable storage medium of claim 11, wherein the simultaneous display of the live video stream from the first user and the live video stream from the second user is performed by way of a picture-in-picture view.

15. The non-transitory computer-readable storage medium of claim 11, the operations further comprising:

receiving live video stream from a mobile device of a fourth user, the live video stream including recorded visual data of the event captured by a camera at a third angle on a fourth user device associated with the fourth user;

adding the fourth user to the logical group; and

causing the live video stream from the fourth user to be simultaneously displayed on the display of the third user device along with the content from the first user and the live video stream from the second user.

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